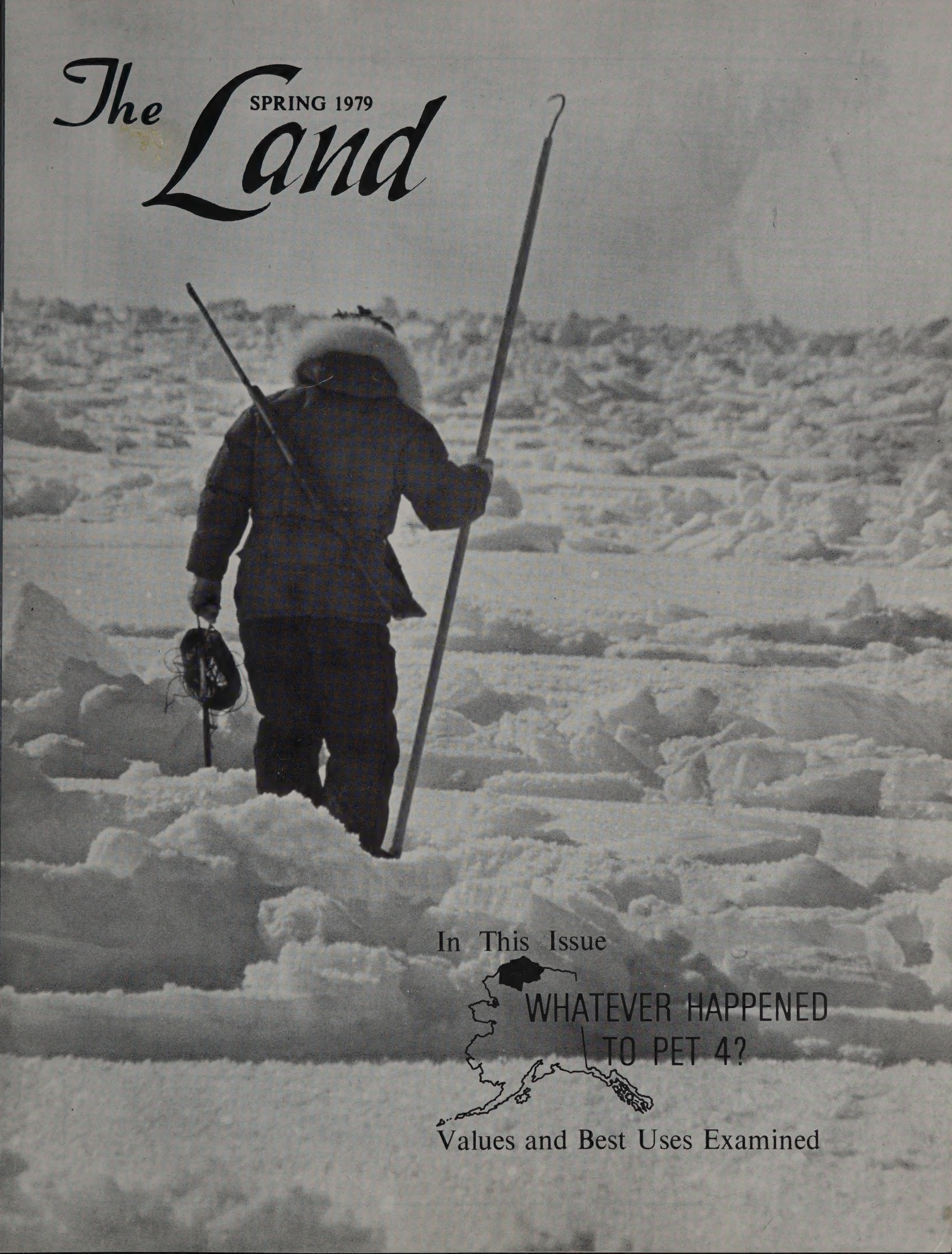
The Land

SPRING 1979



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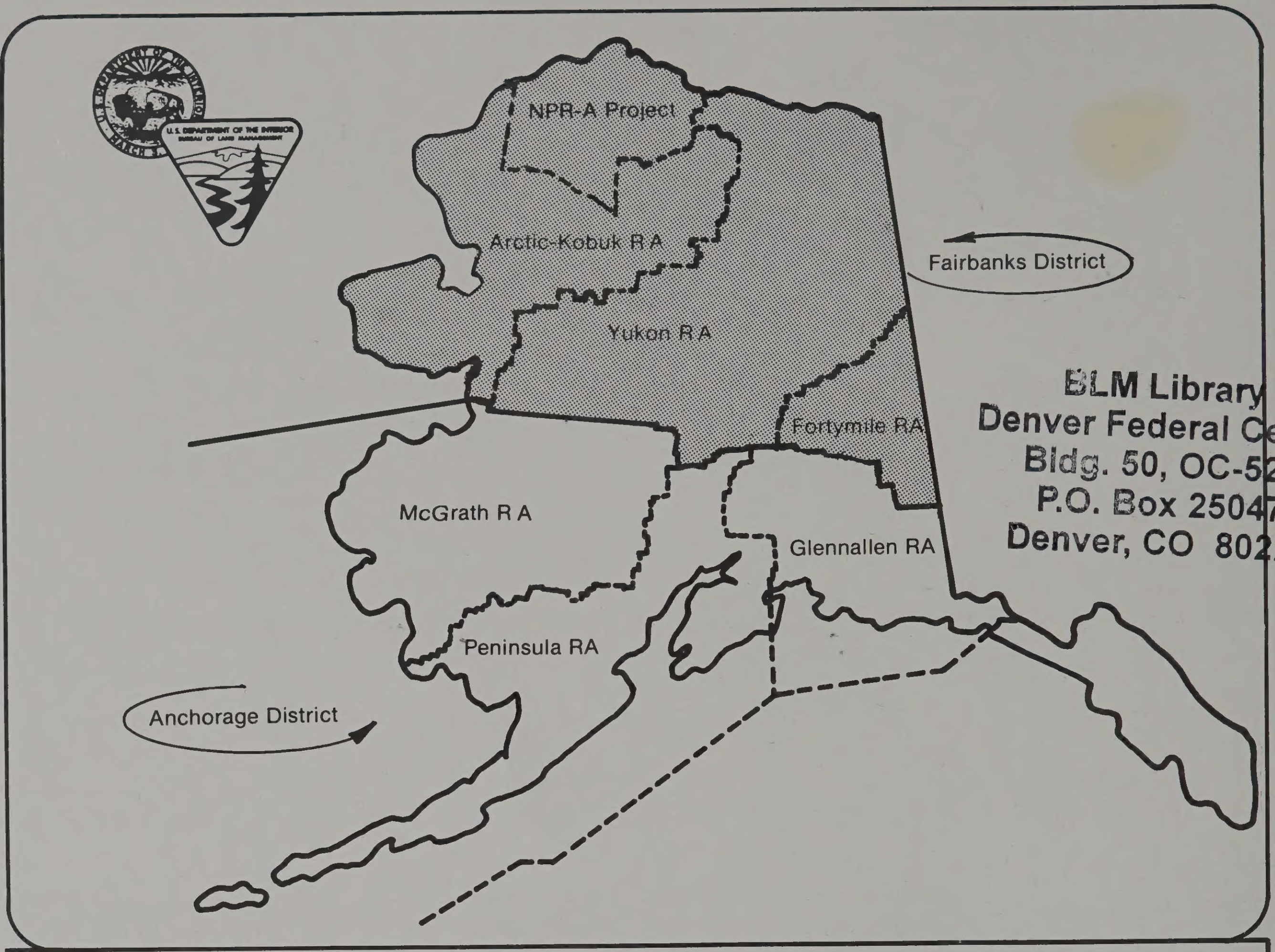
WHATEVER HAPPENED TO PET 4?

Values and Best Uses Examined



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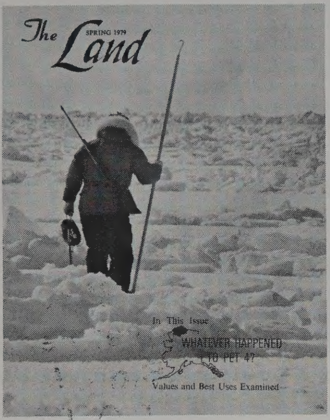

This month's cover photo shows an Inupiat hunter on the Alaskan North Slope. Traditional land uses and future land uses are the subject of National Petroleum Reserve studies that were due in Congress April 5, 1979. Story on Page 13. *(Photo by Sverre Pedersen)*

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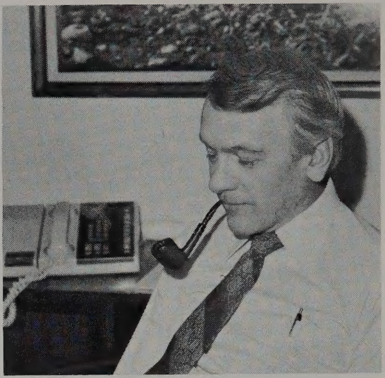


WHERE WE'RE HEADED

The last few months have been confusing, haven't they?

Now there are 56 million acres of monuments carved out of lands formerly managed by the BLM, and another 44 million acres are under more intensive protection, the uses on them essentially "frozen" by Secretary Andrus while Congress debates their future.

Elsewhere in this issue of "The Land" you'll see what the BLM and other agencies are doing to transfer jurisdiction, but I thought I'd use my space for a little philosophizing about the BLM's future in Alaska.

Although we don't know the precise boundaries of the land to be managed by the BLM--and won't until "d-2" legislation becomes law--we know generally where they'll be. And, although we could be managing as few as 41 million acres or as many as 108 million, whatever the amount, ours will be true multiple land use land. Here's what that means.

We're operating now under a modern law called the Federal Land Policy and Management Act. Its passage by Congress in October, 1976 erased about 3,000 old laws, some of them conflicting, many of them confusing, others outdated. FLPMA gave us a clear mandate to manage the land for multiple use; until its passage, we had assumed the role of multiple use manager without solid statutory authority. Now we have it.

The law mandates comprehensive planning before significant activities can take place on the public lands. And our planning system emphasizes public involvement at virtually every state of the process, from gathering basic resource data to finalizing a land use plan for a specific geographic area.

Because of the uncertainty regarding land tenure, we haven't been using the system throughout Alaska, but if you helped us on the Utility Corridor and National Petroleum Reserve land use plans, you have a good idea of how we operate.

If you didn't, I'll just say that you have some work ahead of you if you're interested in management of public lands, for we consult with every known interest--Native villages and corporations, State, Federal and local governmant; user groups and individuals; special interest groups; and the general public.

When the BLM looks at the land and its resources, we view them from two perspectives--one technical, the other subjective. We "count the blades of grass," then find out how people want to use them. Next, we stand back, look at the competing uses and, with your help determine their best use or mix of uses.

Note that I've said "use or mix of uses." Multiple use management does not mean that every activity can take place on every tract of land, for we recognize through our planning system that specific areas may be best suited for single activities. For instance, archeaological values of an ancient settlement may far outweigh recreational values. In that case, we might consider closing it to other uses.

Multiple use is neither pro-development nor pro-preservation. It's a wise use of resources under environmentally sound systems of management. It could even call for land disposals if that is in the public interest, but judgements like that will be weighed carefully, for, in FLPMA, Congress clearly declared its intent that BLM-managed lands be kept in Federal ownership unless "it is determined that disposal of a particular parcel will serve the national interest."

I share with BLM's Director, Frank Gregg, the following sentiments which he expressed recently before the House Committee on Interior and Insular Affairs:

"Unlike Federal land administration, which is more narrowly defined and oriented, multiple use management is much more demanding and challenging. By its nature, it must operate in an arena of conflicting perceptions, interests and expectations. Yet multiple use management is potentially the most rewarding and beneficial form of administration. It holds the promise of honest accommodation of all divergent interests in the public lands and their resources, simultaneously pursuing programs in support of absolute preservation, of resource improvement and development and of intensive economic and commercial use."

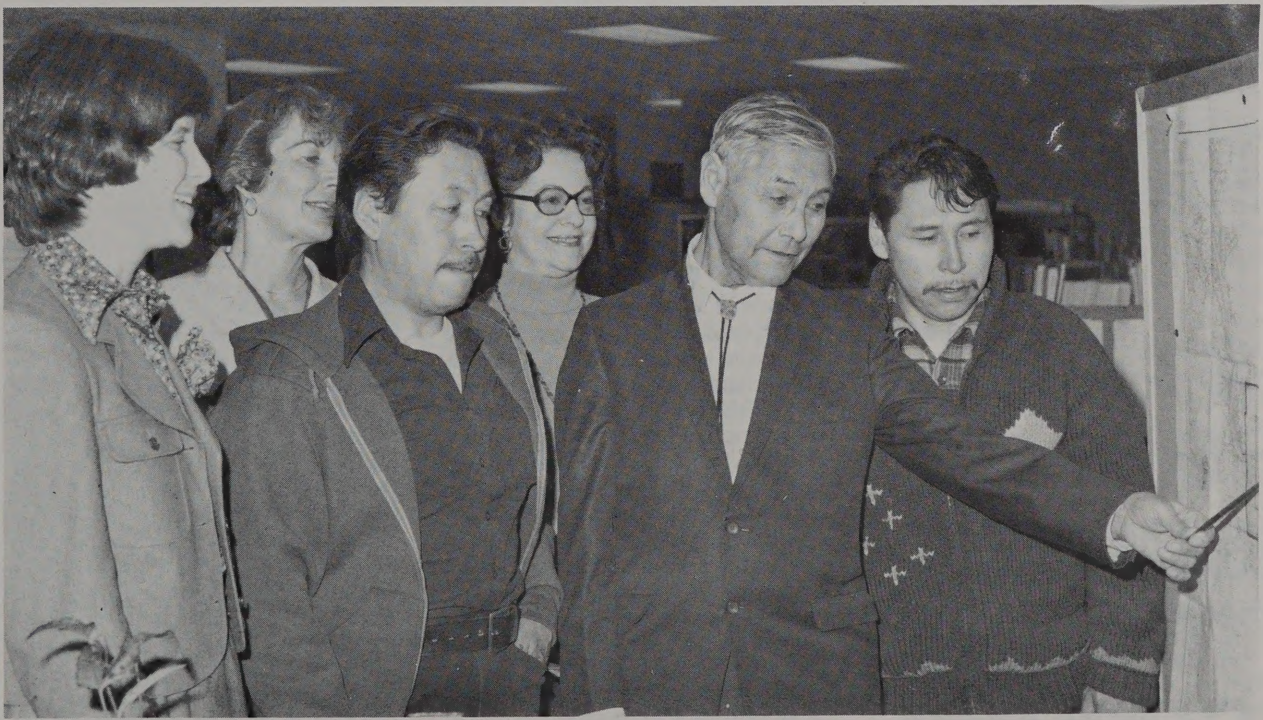
I can't express our challenge better.

ALASKA LAND STATUS TODAY

National Park Service	**47.8 million acres**
U.S. Fish and Wildlife Service	**34 million acres**
U.S. Forest Service	**20.7 million acres**
Military withdrawals	**2.5 million acres**
State land (includes patented and tentatively approved for conveyance)	**36.1 million acres**
Native land (includes patented and interim conveyed)	**7 million acres**
Private land	**plus or minus one million acres**
Bureau of Land Management (includes 54 million acres under FLPMA withdrawal plus 23 million acres in NPR-A)	**227,007,721 million acres**

BLM News At A Glance

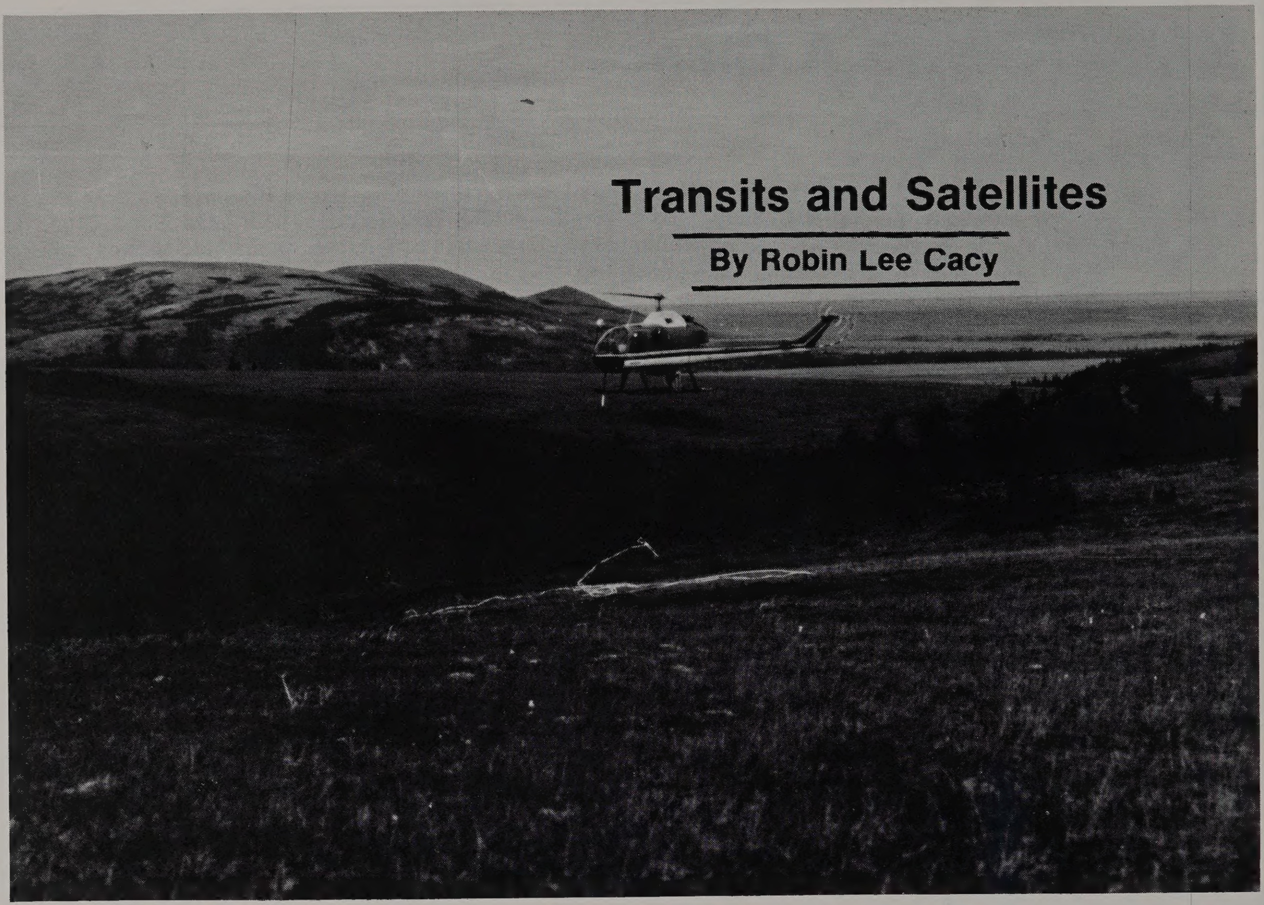
23 new postions slated for BLM Alaska	Interior Secretary Andrus is beefing up the BLM in Alaska. He recently authorized an additional 23 positions for State land conveyances. The BLM State Office is developing programs to speed up transfers both to the State and to Natives, it's also streamlining Land Office records.
fire management study underway	Fire Management is leading a prototype fire management study of the Fortymile. (See "Getting Along on the Fortymile" this issue.)
management activities planned for proposed pipeline	Surface protection of the National Petroleum Reserve continues. (See "Working in the Arctic" this issue.) The State Office is staffing up slowly for management of activities related to construction of the proposed Northwest gas pipeline. Also, an organizational study dealing with absorption of the Interior Department Pipeline Office into the standard BLM organization is nearing completion.
105 (c) study winding down	A team is wrapping up the National Petroleum Reserve land use study (See "Who's Doing What on Pet 4?" this issue) and consolidating public comments on the Utility Corridor Plan.
resources clarifing responsibilities	Personnel are attempting to clarify BLM's responsibilities in Alaska related toess provisions of the Federal Land Policy and Management Act. Staff is also working with the NANA Regional Corporation, the State, and others in the development of a policy on increased reindeer grazing in light of forage competition between caribou and reindeer.



St. Mary's Native Corporation President Moses Paukan and corporation members William Tyson (pointing), and Andrew Paukan review a map showing 107,541 acres of surface estate conveyed by BLM on March 23. Looking on from the left are Judy Kammins, Chief, ANCSA Division BLM, Jane Clawson and Doris Diakakis, BLM Land Law Examiners. Conveyance of the subsurface estate to Calista Corporation took place on the same day. *(BLM Photo)*

Transits and Satellites

By Robin Lee Cacy



An ABC helicopter drops a flag to mark a monument location. Later, ground crews will set the monument permanently. *(BLM Photo)*

STATE IS A SURVEY TESTING GROUND

In 1775, Thomas Jefferson devised a plan for measuring the public lands in the U.S. Soon after, surveyors armed with transits and tapes began to survey the new land.

It's 1979 and they're still out there, surveying a not-so-new land--Alaska. They do it by positioning township section corners on the ground in accordance with the geographic positions shown on the protraction diagrams, and then "monumenting" them with an aluminum cap affixed to a 3/4 inch aluminum rod driven into the ground at the precise point.

With more than 375 million acres to be surveyed, Alaska has become a testing ground for new surveying techniques designed to get the job done as quickly and accurately as possible.

"We use every method known, from sophisticated electronic equipment that receives satellite signals to the traditional on-the-ground surveyor with a transit and tape," says Irving Zirpel Jr., chief of BLM's Cadastral Survey Division.

One piece of equipment that has helped increase the number of miles per day is the "autosurveyor." this system of small boxes containing a sophisticated navigation system is able to sense changes in its own location. It's helicopter-mounted and tied into an on-board computer. Current location and data for the points to be monumented are fed into the computer while the system stabilizes itself over a known point.

Current location is displayed in the helicopter while the pilot guides it to the correct point to drop a monument. After another stabilization period, the course is retraced to assure accuracy. Ground crews later set the monuments permanently.

Inertial systems like the autosurveyor can be used almost everywhere in Alaska except in heavily timbered areas like the southeast where a helicopter can't set down to stabilize the system.

Unlike inertial systems which require only a known point to start a survey, the Airborne Control system requires a line of sight between itself and ground stations. The ABC system combines traditional on-the-ground surveyors with modern technology.

Using long range electronic distance measuring equipment, the pilot positions the helicopter in the approximate area of the point.

An antenna mounted on the helicopter sends a microwave signal to responders which change the frequency and transmit it back. Each responder sends a different frequency signal.

Ground crews visually guide the pilot over the exact point and the monument is dropped. Location information is fed into the on-board computer for computation later.

All surveys must start from a known point called a horizontal control station. BLM is establishing more such stations using satellite tracking techniques. Those "doppler systems" determine their location on the earth by monitoring orbiting navy navigation satellites. They can be set up almost anywhere and don't require the sun or moon to get a fix on their location.

The system receives signals from satellites as they pass over and, by monitoring changes in frequency, determines where it is on the earth.

Originally, BLM used a single unit system. During the 1978 field season, personnel began using a system of multi-station positioning with four receivers. One is placed on a known point and the rest on unknown points; all track the same satellite at the same time.

Information broadcast from the satellite is recorded on two channels, one to record changes in frequency and one to monitor refraction of radio signals.

The receiver is programmed to search for satellites at precomputed times depending on the rise and set time of the satellite. The receiver locks on to the satellite signal and records data every two minutes. When the satellite goes below the horizon, the system goes into standby until the next scheduled search time.

To assure accuracy, a minimum of 30 separate satellite passes are monitored. Receivers are moved about every other day while the base station remains stationary until all points within a 40 mile radius are determined.

By determining the differences in slant range from the satellite to the receiver antenna, surveyors can calculate the latitude, longitude and elevation from the base to remote stations.

The system was highly successful. Few mechanical problems were encountered although some damage was done by marauding bears.

"Doppler systems are the coming thing in surveying," says Zirpel. "As more satellites go up and systems are refined, it won't be long before a surveyor can go out anywhere with one on his back, press a button and know exactly where he is on the earth.

"The capability is there, all it needs is time," he says.

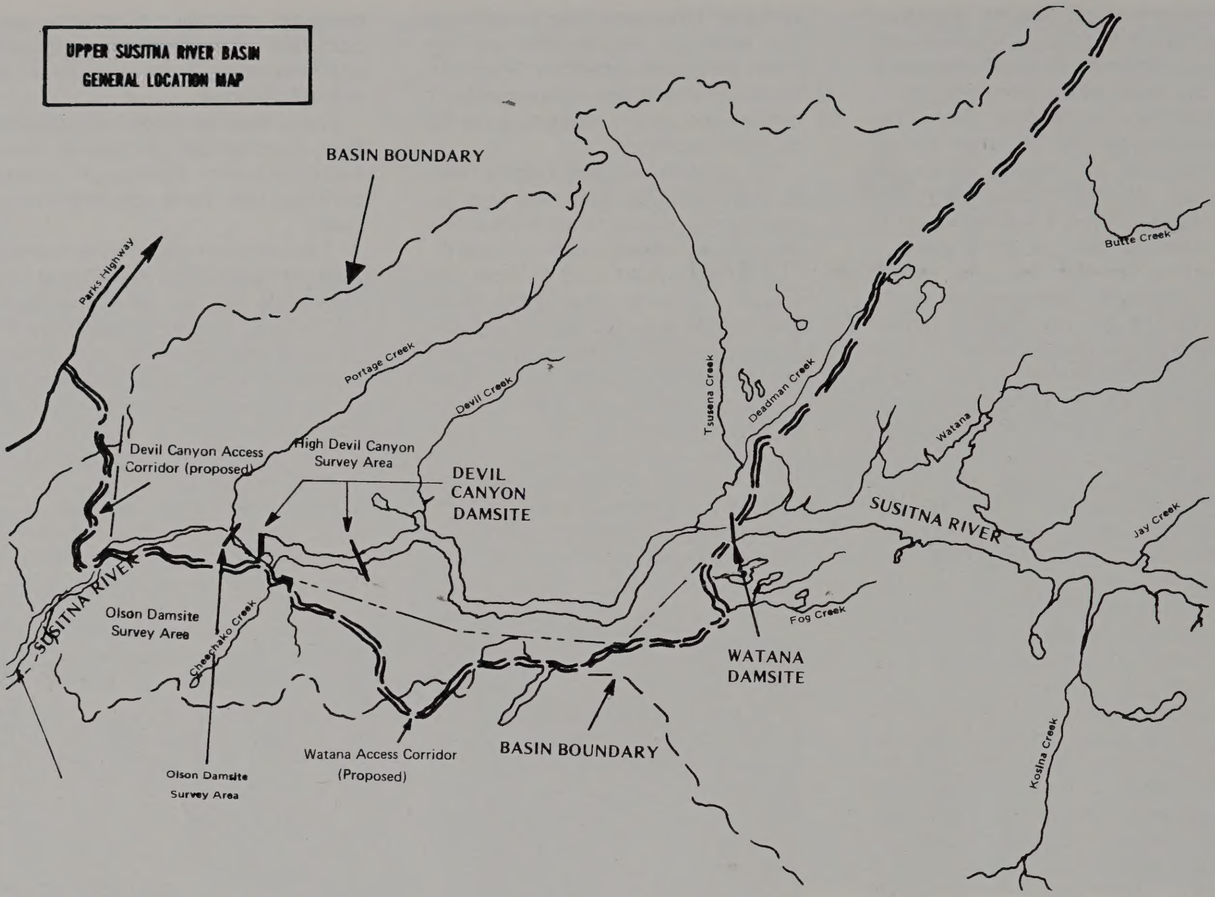
Amid the array of space-age equipment remains the surveyor on the ground. Using instruments whose general configuration hasn't changed in hundreds of years, they do the bulk of small claims work. Zirpel estimates there are 19,000 small claims that must be segregated out of Native and State selections before patent can be issued.

Since 1975, BLM has surveyed more than 32 million acres at a cost of about $29 million. During the 1978 season, more than nine million acres were surveyed at a cost of $7.6 million.

In addition to in-house surveys, BLM contracts out many village and regional selection surveys. In 1978, five private companies surveyed 2.7 million acres at a cost of about $2.4 million. ■

Attaching the survey marker to an aluminum rod placed in the ground with a portable high impact hammer. A fiberglass cone will be placed over the cap so it will be easier to locate. *(BLM Photo)*

A surveyor takes a reading from short range EDM equipment used in small tract surveys. *(BLM Photo)*



Go-Ahead Given on Hydropower Studies

By Joette Storm

The controversial Susitna Basin hydropower studies will be permitted by the BLM's Anchorage District Office if Alaska Native corporations with interests in the lands give their approval.

A decision to permit the Alaska Power Authority (APA) to conduct limited studies at the proposed sites of the Devil Canyon and Watana dams was made by Anchorage District Manager Richard Tindall after an extensive assessment of the environmental impacts of the proposed studies.

Tindall agreed to allow surveys, seismic studies, limited drilling, and hydrology, biology and geology studies. He denied a proposal to construct an airstrip and a 41-mile access road as well as various blasting and trenching.

In addition, the APA will be required to limit some activities to the period when the ground is frozen in order to protect possible wetlands. There is no accurate inventory of wetlands in the basin, but the BLM and the Army Corps of Engineers will conduct one during the summer.

"This was a difficult decision to arrive at," says Tindall. "The area in question is wilderness in character and we are charged with managing such areas to protect and preserve that character."

Although portions of the basin will probably soon be transferred to Native corporations, as interim managers of the land BLM is charged by the Federal Land Policy and Management Act to protect wilderness values until the land is conveyed.

Public opinion also was taken into consideration in the decision making process. Two public meetings were conducted to help the public in preparing written comments on the studies. As a convenience, citizens were permitted to make oral statements for the record if they preferred to do so.

The oral comments, along with more than 80 written comments, were analyzed and used in the environmental assessment process, according to Dennis Money, project leader.

"We did not address the merits of the dams themselves or of hydroelectric power," he says. "The issue was the impact of the studies and we found much useful information in the comments which led to the decision to allow some activity under a definate set of stipulations."

At press time, the APA had not received funding for the project or letters of nonobjection from the Native corporations. If these two ingredients are not forthcoming before breakup, further modifications in the study may be required.

Living and working in the Arctic

Living and working in the Arctic calls for a rare breed of human. When this writer journeyed to the North Slope on a writing and photo taking mission in early March the temperature, taking into account wind chill, was 95 degrees below zero. During that week, the warmest day was 60 below.

It seems incredible that people actually work on exploration rigs and fly around in small planes to work in an environment where the expected survival time on the ground is one hour if not properly dressed.

Most oil industry workers put in 12 hours per day, seven days a week for three weeks and then take 10 days off. Government employees adjust their schedules to meet demands on both the Slope and in the Fairbanks District headquarters.

One person I met was a young lady from Argentina, who had, five years ago, hitch-hiked all the way to Alaska for the sheer adventure of working in the Arctic. She related, "Although I have a master's degree, I love working at the camps' kitchens out here in the wilds." She added, "Someday I'll probably tire of all this but, for the moment, I'm able to put $2,000 each month into a savings account and spend my 10 days off in Hawaii. What could be better than that?"

For some it's the money; for others the experience; and for many it is the opportunity to work and live in a rarely seen land. For government types, it's generally a combination of the latter two factors.

The high point of the day is meal time. This is when the workers get together to talk about everything from work to what might be on the two hours of video tape that is flown in daily. Another thing about meal time is that the food is the very best you can find anywhere.

Breakfasts are literally anything you could possibly want, ranging from eggs to fresh pineapple and maybe even some fresh lobster or crab salad left over from the previous night's supper. The evening meals, all you can eat, could be steak and lobster that fills the plate, or exotic fish entrees.

Sleeping is two to a room, and the camps vary in size from 25 to 100 people.

The environment is tough on the North Slope, but thoughtfulness and human ingenuity make it endurable.

Monitoring the Environment

In 1976 Congress passed the National Petroleum Reserve Production Act, that transferred Naval Petroleum Reserve No. Four in northern Alaska from control of the Navy Department to the Department of the Interior. At that time it was renamed the National Petroleum Reserve in Alaska (NPR-A).

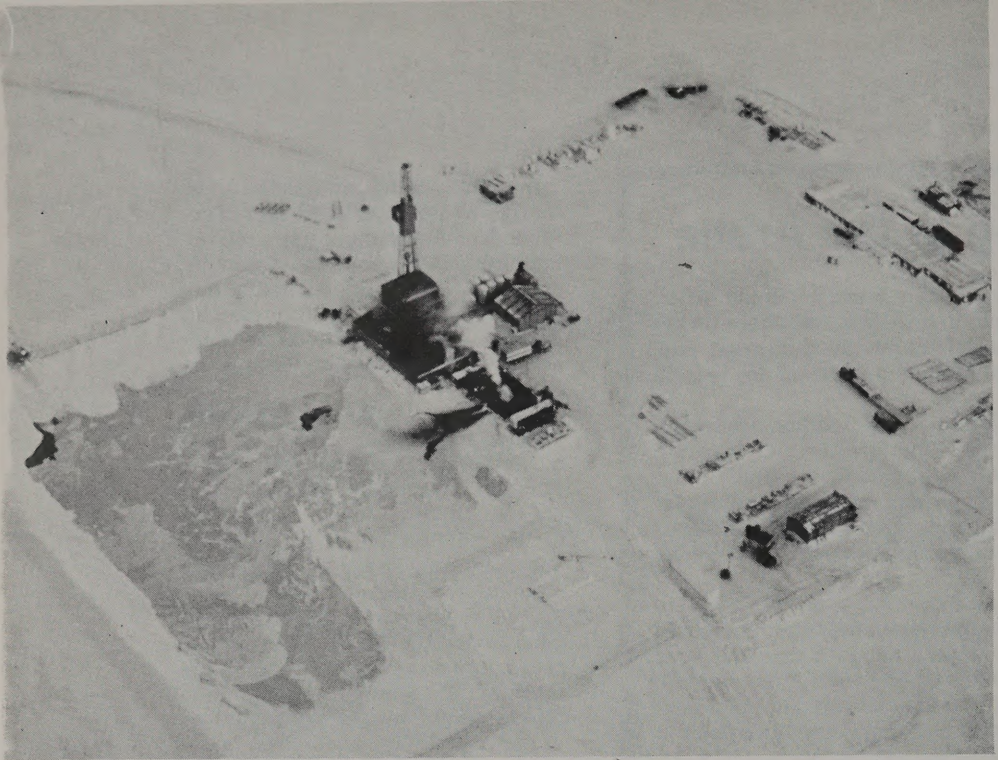
Two Interior agencies assumed certain responsibilities for its 26 million acres of tundra, that stretches from the Arctic Ocean to the foothills of the Brooks Range. The U.S. Geological Survey was tasked with continuing the on-going exploration program for oil and gas that had been started by the Navy. The Bureau of Land Management was told to form a group to manage its surface and to organize and coordinate an inter-agency study team to determine the values of NPR-A lands. The latter responsibility was spelled out in section 105 (c) of the act.

The 105-C studies, the basis of which is the feature "Who's Doing What to Pet-4" in the center spread of this issue of **The Land**, were to determine the mineral potential, historical recreational, fish, wildlife, wilderness, and scenic values of the land in NPR-A. Traditional native use also was to be considered. Information obtained from the studies and the oil and gas exploration program will be used by Congress to make decisions concerning land use in NPR-A.

In discharging BLM's surface management responsibilities on NPR-A, the Fairbanks District office cooperates with the U.S.G.S. in preparing environmental assessments and formulating stipulations for all activities being conducted on NPR-A, exclusive of Federal oil and gas exploration.

Stipulations are designed to mitigate potential disturbances to surface resources. According to John Santora, BLM project manager, the entire Arctic environment is sensitive, but some areas in NPR-A are critical in terms of survival or maintenance of a particular wildlife species. **(Cont. on Next Page)**

The lonely DEWLine station adjacent to the airstrip in early March. The tempurature (including wind chill) was 95 below zero when this was taken. *(BLM Photo)*



A typical Arctic oil rig that is operating under winter conditions. This rig is at the East Simpson test well number one about 25 miles west of Lonely. *(BLM Photo)*

For example, the caribou in the western part of the Arctic traditionally calve in the Utukok Uplands. Therefore, activities are not allowed in the calving grounds between April 30 and July 15 to prevent possible disturbance to the animals.

The caribou is just one animal protected by stipulations and guidelines. Peregrine falcons also are protected. Activity within one mile of their nesting areas is prohibited. More stringent stipulations can keep activity even further away, if necessary.

Critical water fowl nesting and molting areas at Teshekpuk Lake also are protected. Fish resources important to subsistance users in the Reserve are protected by providing access to potentially important lakes and rivers and writing stipulations which minimize effects on fish habitat and populations.

Surface disturbance resulting from overland vehicle travel also is carefully monitored. One vehicle being used extensively on NPR-A is the rolligon. It has very wide, air bag type tires that produces a ground pressure much lower than a conventional rubber-tired vehicle. In fact, its ground pressure is so light that advertisements show these vehicles actually rolling over a man. But even this sophisticated piece of equipment, when used improperly may disturb the tundra.

"Anytime you build trails or put traffic on the tundra in the arctic, you have to be extremely careful," says Santora. "When you make repetitive passes in one area, you risk breaking through the tundra or vegetative mat."

When the insulating mat of vegetation is disturbed, the thermal balance between the permafrost and active layer is destroyed. This imbalance can cause thermokarsting, a thawing of the permafrost layer, and slumping of the ground surface. Eventually, ponding and/or erosion channels may be formed.

In addition to vegitation, cultural resources found in archaeological sites may be disturbed by vehicles on the tundra. For these reasons, it is extremely important to monitor trail locations as well as the amount and type of traffic utilizing the trails, says the NPRA project manager.

"Many of us have seen pictures of scars in NPR-A that were created in the late 1940s and early 1950s when the early exploration programs were taking place," says Santora. He adds, however, "some of those mistakes were made because people didn't thoroughly understand the sensitivity of the Arctic environment.

The building of an all season airstrip at Lisburne in the foothills of the Brooks Range. These all season strips can handle aircraft up to and including C-130s.

A portable construction camp or train. These are moved from site to site on Michler sleighs. These sleighs are similar to Arctic dog sleds except they're much larger. *(Dept. of Interior Photos)*

"However, I have always maintained that work can be done in the Arctic while still protecting the environment. One must understand, be sympathetic toward, and have a working understanding of the factors affecting the environment."

Stipulations which regulate vehicles moving across tundra restrict travel to times of the year when snow cover and frozen soil will minimize disturbance to vegetation.

Other guidelines and stipulations cover the use of aircraft in special areas, waste disposal and other camp procedures, and fuel handling, not only for individuals involved in exploration activities, but scientific investigators and other kinds of casual summer users as well.

As surface manager, the Bureau of Land Management's role includes monitoring winter activities. That means construction at well sites, cross-country equipment moves, exploration drilling and seismic operations. In addition, follow-up work on the winter activities is done the following summer.

Mike Kunz, one of the Bureau's monitors, gives an example: "while flying over the seismic lies during the winter, I observed some moderate surface disturbance to a snow-free hill. The hill didn't appear to be vegetated and the disturbance to a snow-free hill is to bare soil. It could result in formation of eroding channels.

He adds, "it appeared that the snow cover was so thin that repeated passes by flex-track vehicles have in several places, broken up the frozen tundra mat exposing the soil below. This indicates to me that the area should be examined to determine whether some stabilization work is called for."

The summer months also are the time when monitors like Mike return to old camps to see if they were properly cleaned up. If they were not, the subcontractor responsible is notified and required to return them to their natural condition.

"However," Mike says, "this is rarely a problem since the users are becoming increasingly sensitive to this environment, not to mention the fact that they also are aware that the cost of going back to clean up a site is far greater than doing it right the first time."

Summer also is the time for planning where the following winter exploration activities will take place. Locations for drill sites, water sources, potential trails, camp moves, air strips, material sites, and seismic lines are determined by United States Geological Survey subcontractors.

This photo shows a type of natural erosion that continually occurs throughout the foothills area of the Petroleum Reserve. *(Dept. of Interior Photo)*

BLM helps prepare environmental assessments of all proposed well sites. Therefore, summer field work includes determining what biological and cultural resources exist at well sites and along trails so that potential disturbance to these resources during exploration activities can be identified and minimized.

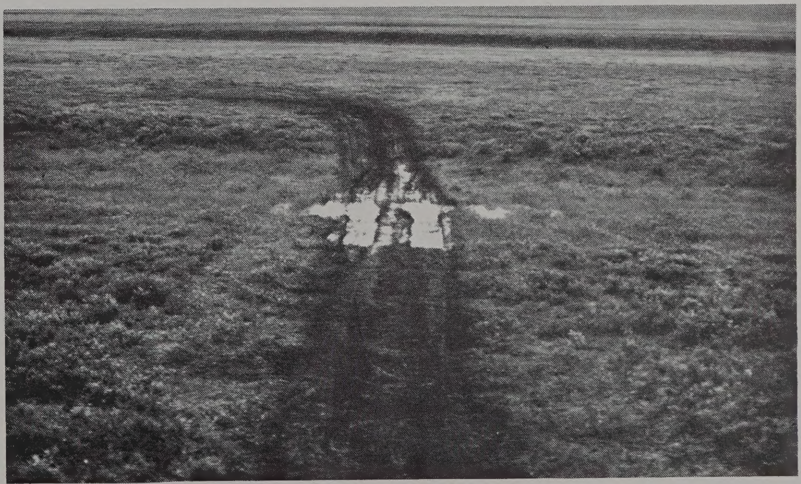
The Bureau also is responsible for assisting the Geological Survey formulate stipulations which provide protection to the environment. In many cases, more information regarding the effects of exploration activities on the environment is needed.

As a result, a number of studies are planned or are being carried out to obtain this kind of information.

Some of these projects include a study to locate potential winter water sources and fish wintering areas using remote sensing techniques; studies to determine the effects of seismic activities on vegetation and on denning grizzly bears; and a study to determine the effects of drilling operations on the nesting success of raptors.

Bureau of Land Management archaeologists are continuously involved in excavations of important prehistoric sites that would have been impacted by exploration activities.

During my trip to NPR-A, one fact seemed to stand out. John Santora really summed it up when he said,"We are trying to make sure that environmental concerns are given maximum protection consistent with the requirements of oil and gas explorations." **Mike Butler**



This scene shows a situation developed from multiple passes by tracked vehicles during the thawed period of the year. Depending on soil conditions, and the vegitation, this could possibly lead to ponding. These are the types of things that are trying to be avoided. *(Dept. of Interior Photo)*

SOUTHCENTRAL
ALASKA WATER
RESOURCES
STUDY
(Level B)

ALASKA
WATER STUDY
COMMITTEE

Water, Water Everywhere, But...

A little-publicized but nevertheless important project supported by BLM is a cooperative study of water and water-related resources in Southcentral Alaska. It's focusing on existing and potential resource use conflicts.

The folks guiding the study call themselves the "level B management team." That's bureaucratese for the type of study they're conducting.

Their director, Frank Urabeck, explains:

"It's part of a planning system designed to assess problems and provide possible solutions. It follows a Level A study which was a broad assessment of water resource problems throughout Alaska. That was completed in 1977 and one of its recommendations was that this more refined, in depth study of the Southcentral Region be conducted.

Southcentral was selected for the first Level B study in Alaska because most Alaskans live here and the problems facing the region are significant."

An economic task force has made alternative projections to the next century. By the year 2000, depending on the set of assumptions used, the region's population could double or triple from the 230,000 people estimated to be residing in it in 1975. This explosive kind of growth, even under the least development-oriented scenario, will place significant demands on water and related land resources.

Other technical committees are addressing electric power needs, water quality, water supply, problems associated with overcrowding of popular recreation areas, land use management concerns and measures necessary to protect fish and wildlife resources.

The study team takes its marching orders in the form of policy guidance from the Alaska Water Study Committee, comprising more than 30 Federal, State, local and private interests.

Funding and broad national guidelines are provided by the U.S. Water Resources Council in Washington D.C. The Council consists of the secretaries of Interior, Agriculture, Army, HEW, Transportation, Energy, Commerce and HUD, Administration Director of EPA, OMB, Chairman of the Council on Environmental Quality, Attorney General, Dept. of Justice, and the Chairman of River Basins Commission.

Urabeck's group, headquartered in Anchorage, is responsible for monitoring the progress of six interagency technical committees, reviewing study products, maintaining the schedule, planning and executing a public participation program, and coordinating the development of alternate resource management strategies.

Current and projected demands on fish and wildlife, land resources, and the need for municipal and industrial water supplies, outdoor recreation opportunities, electric power and water quality control are being determined and evaluated by the technical committees.

BLM contributes rangeland data and also serves as the administrative agent for the program, providing contract administration, finance, reproduction and public participation support.

"We're at the half-way point," says Urabeck. "The final report is due to the Council in 1981."

"We'll have public meetings this summer to explain the committees' findings. The next issue of **The Land** will explain some of the more significant ones and provide the schedule of meetings throughout the region."

Since there might be conflicts among resources users that will require trade-offs, public sentiment will be solicited and weighed to develop acceptable strategies. Agencies involved will then be expected to implement these strategies through their regular programs.

Urabeck says, "the value of this Level B Study is its comprehensive interagency approach to identifying resource values and use conflicts and its long range planning horizon."

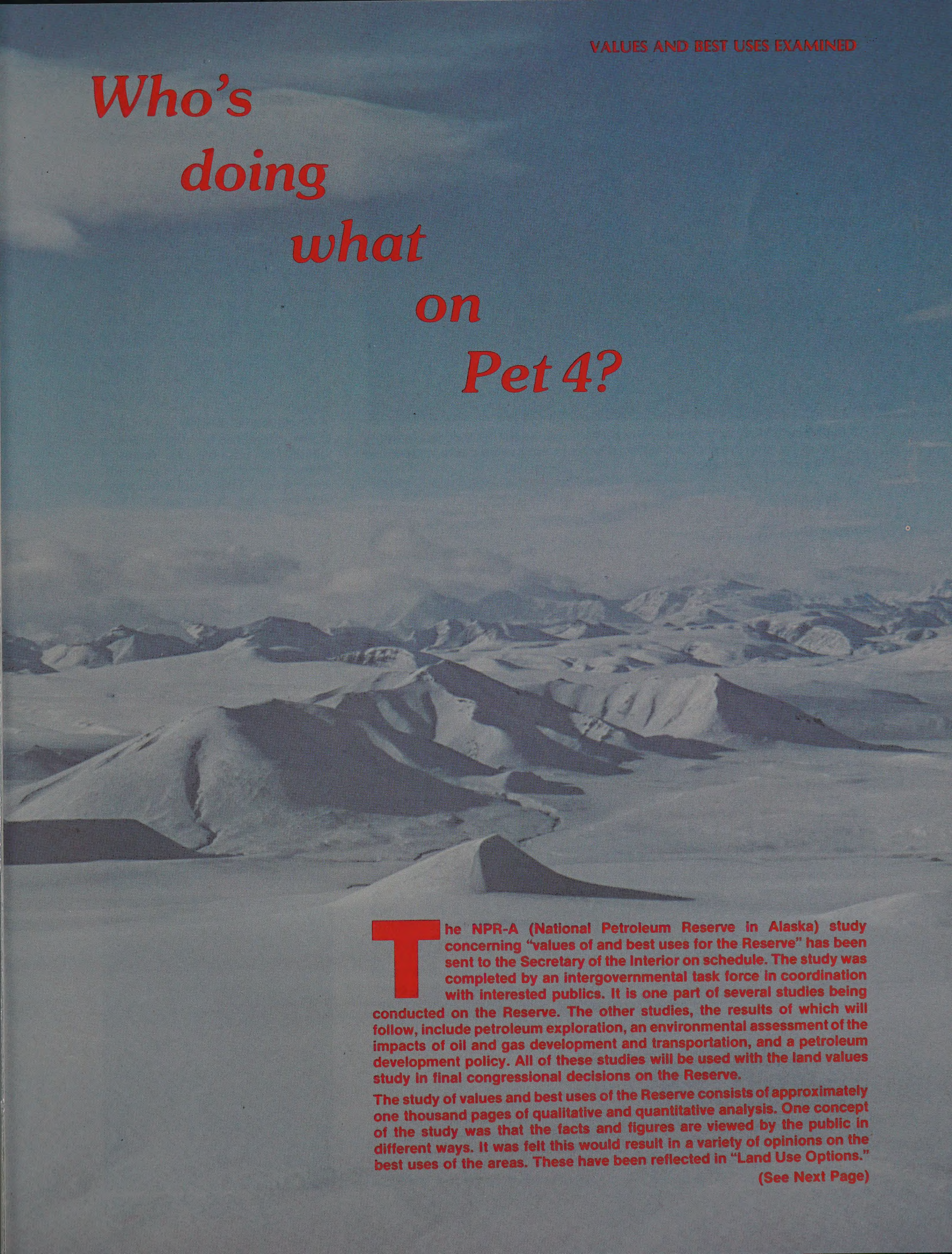
Urabeck is scheduled to transfer to another agency and a replacement has not been named. Other team members are Sue Reisinger, office assistant and a BLM employee; Dan Wilkerson from the Alaska Department of Environmental Conservation; and Jeff Richardson of the Alaska Federation of Natives who represents Alaskan Native interests.

In addition, three technicians assist the team under programs funded through the Comprehensive Employment and Training Act and the Young Adult Conservation Corps.

You can find level B'ers in the south wing of the Kaloa Building at 16th and C Streets. Their Anchorage office is open from 7:30 a.m. to 4:30 p.m., Monday through Friday.

VALUES AND BEST USES EXAMINED

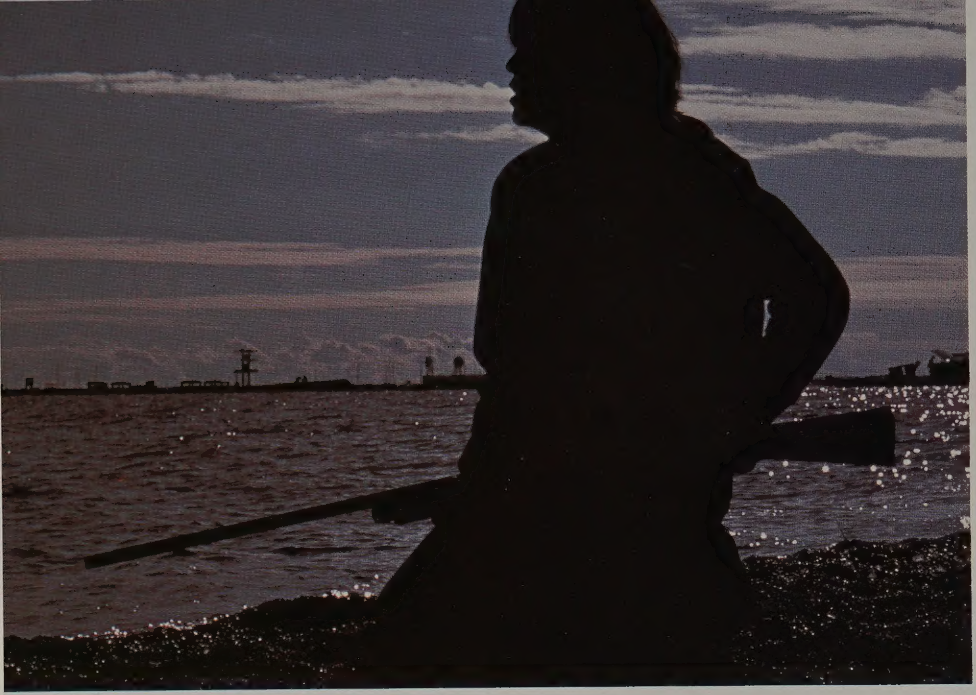
Who's doing what on Pet 4?



The NPR-A (National Petroleum Reserve in Alaska) study concerning "values of and best uses for the Reserve" has been sent to the Secretary of the Interior on schedule. The study was completed by an intergovernmental task force in coordination with interested publics. It is one part of several studies being conducted on the Reserve. The other studies, the results of which will follow, include petroleum exploration, an environmental assessment of the impacts of oil and gas development and transportation, and a petroleum development policy. All of these studies will be used with the land values study in final congressional decisions on the Reserve.

The study of values and best uses of the Reserve consists of approximately one thousand pages of qualitative and quantitative analysis. One concept of the study was that the facts and figures are viewed by the public in different ways. It was felt this would result in a variety of opinions on the best uses of the areas. These have been reflected in "Land Use Options."

(See Next Page)



A hunter waits for ducks to come in over the lagoon near the Barrow DEWLine station. This area is used in traditional ways as well as for modern technical facilities. *(Photo by R. Worl)*

Options will be addressed later in this article but, before getting into them, some background information is necessary.

In 1923, President Harding set aside a 23 million acre tract in northwestern Alaska as a potential source of fuel for the Navy. That tract, Naval Petroleum Reserve number 4, more commonly known as "Pet 4," was controlled by the Navy until June 1977, when the Naval Petroleum Reseves Production Act of 1976 transferred it to the Department of the Interior and changed its name to National Petroleum Reserve in Alaska (NPR-A).

The act also continued an existing oil exploration program, directed a study of alternative procedures for development, production and distribution of petroleum resources, and focused on the economic and environmental consequences of these procedures.

It also called for a report to Congress by April 5, 1979, and directed the Secretary of Interior to "establish a task force to conduct a study to determine the values of, and best uses for, the lands contained in the reserve."

Jerry Wickstrom, Chief of NPR-A Planning, says, "Three items should be noted. First, these exploration and study efforts are separate programs and, although a coordinating committee has been established, they are not under a common leadership.

"The study completion dates are quite different; the land use study results are to be submited to Congress several months before those for the petroleum, economic and environmental studies. All of these studies will be brought together in a report to Congress in January 1980.

"Finally, the land use study was directed to consider all resources except petroleum. This has been a very confusing aspect to explain to the public, but it is conceptually sound. It allowed the team to objectively evaluate all other values without being overweighed by the major change factor--petroleum. The petroleum values determined by the other studies now can be factored into the land values and options that were identified."

An Alaskan Task Force was created to oversee the land use study. It is known as the "105(c) Study" since it was called for in that section of the Act. The Task Force included Bureau of Indian Affairs (BIA), Bureau of Land Management (BLM), Bureau of Mines (BOM), Heritage Conservation and Recreation Service (HCRS), National Park Service (NPS), Fish and Wildlife Service (FWS), U.S. Geological Survey (USGS), State of Alaska, the North Slope Borough (the local government for the NPR-A area), and the Arctic Slope Regional Corporation. The latter is a private, profit making organization created by the Alaska Native Claims Settlement Act.

Funding for the study was not made available until late spring of 1977 and although the study director was on the job in June, the permanent staff was not complete until December, 1977.

The study was conducted by a core staff of BLM employees and employees on interagency loan or otherwise assigned from the Task Force's agencies. Full time employees from the state and the North Slope Borough were provided through the Intergovernmental Personnel Act. In addition, work groups led and staffed by the Task Force agencies, conducted field work and developed specific portions.

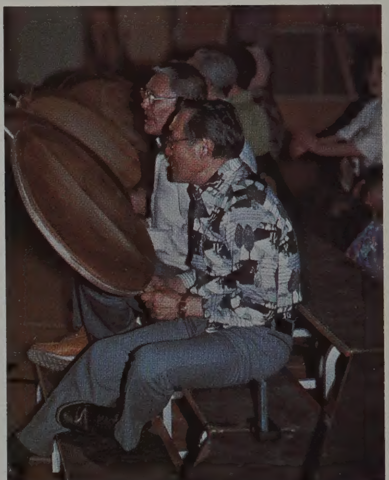
Total funding was $7.3 million. For distribution of funds for the various studies, see opposite page.

Obviously, with such a short time frame, efforts had to be mobilized as rapidly as possible. As Regional Planner David Dorris puts it, "Everyone had to hit the ground running." And they were, during the 1977 field season. Preplanning work development by BLM's State Office Planning and Program Coordination Staff helped provide direction until the new staff could organize.

A LITTLE BIT ABOUT THE LAND

NPR-A is a 23 million acre area at the northern edge of Alaska. It is bordered on the north by the Chukchi and Beaufort Seas and on the south by the Brooks Range. The eastern boundary is the Colville River and the western boundary is approximately the 162 degree longitude line.

Peaks in the Brooks are from 4,000 to 9,000 feet. This rugged and glaciated range is devoid of trees and is ice- and snow-covered most of the year. The Arctic foothills area just north of the range, is a moist tundra area, with rolling plateaus



Inupiat music is part of many ancestral and contemporary community events. *(Photo by R. Worl)*

The Colville, Nigu-Etivluk and Alukok rivers have been found suitable for possible designation as wild rivers. Trips like the one shown offer outstanding river experiences. *(Photo by HCRS)*

and low, rounded east-west trending ridges.

River drainage patterns are complex, and all streams empty into the Arctic Ocean. From an altitude of about 600 feet, the foothills seem to gradually descend northward into the flat, relatively featureless coastal plain.

Thousands of shallow lakes dominate the area and the successive freezing and thawing of the saturated tundra causes them to drain and reform frequently. The coastal plain is treeless. Vegitation is made up of aquatic plants and low shrubs, mosses and lichens, grasses, marsh plants and shrubs.

NPR-A lies within the zone of continuous permafrost--perennially frozen ground. Annual precipitation and temperatures are low, and strong winds are common. This is the land of the Midnight Sun 84 days a year but, in winter, the sun disappears for about 67 days.

THE PEOPLE

Oil and pipeline construction activities brought an influx of workers to the Arctic region, causing the population to triple, from around 3,700 people (mostly Inupiat) in 1970 to over 12,000 in 1977. With the decrease in pipeline activities, the population declined to about 8,700 in 1978, but many of these are a "dormitory" population connected with oil development and pipeline operations. These operations are located about 60 miles east of NPR-A. The resident population of NPR-A and the region is still predominately Native.

The interface of modern western cash and older, biology-based economies is a unique Inupiat blend. An analysis of the interrelationship of the traditional resource harvest and the cash economic system reveals that an integration has occurred which accommodates both. In fact, it allows the Inupiat to keep traditional roles and systems active while incorporating and adapting to externally imposed or adopted changes.

While the cash economy portion of the lifestyle can be defined, many problems are entailed in obtaining a clear understanding of subsistence, the heart of the non-cash economy.

In its broadest sense, subsistence implies a lifestyle in which language, culture, societal structure and social well-being are derived primarily from a close relationship with the land, its physical conditions and biotic resources. This relationship continues to be extremely important since subsistence activities account for a large percentage of the food consumed and preferred by the Inupiat living in and around the Reserve, along with other products that supplement local income.

Horace Sanders, Assistant Chief of NPR-A Planning, explains, "One of the maps chosen for this issue of "The Land" shows subsistence areas. It and the other five maps were selected from 43 color plates that will be contained in the study. They are key to analyzing values on the Reserve."

DISTRIBUTION OF STUDY FUNDS

(in thousands of dollars)

	FISCAL YEAR 1977	FISCAL YEAR 1978	FISCAL YEAR 1979	TOTALS
BIA	224	53	7	284
BLM	525	609	490	1,624
BOM	224	110	24	358
FWS	1,016	1,019	153	2,188
HCRS	133	138	37	308
NPS	718	165	50	933
USGS	806	661	129	1,596
TOTALS	3,646	2,755	890	7,291

The fish and wildlife and the habitats on which they depend have sustained the Inupiat for many centuries and continue to supply a significant portion of their food requirements.

The caribou population is the principal wildlife resource living on the land of northwestern Alaska. They are shared by NPR-A residents and subsistence users from the villages beyond NPR-A.

Caribou numbers reached a peak of 250,000 or more in the 1960s, followed by a marked decline in the early 1970s; the population was estimated at about 75,000 in the summer of 1977. However, it has increased somewhat since then. The animals range over 150,000 square miles or more in northwestern Alaska.

Almost all adult female caribou use the western foothills of the Reserve for calving during late May and early June. A large portion of the population occupies summer ranges on the coastal plain of NPR-A.

Southerly movements occur in late August and September, when large numbers cross the middle and upper Colville drainage and leave the Reserve or remain on the northern portion of NPR-A.

About 1,200 moose live on and adjacent to NPR-A, comprising the largest population beyond treeline in North America. Most are found in the Colville River drainage, and habitat along the major streams provides critical food and cover during the winter.

The wolf population is probably less than 200 but may be increasing. They primarily depend on caribou, moose, and Dall sheep and some leave NPR-A and the Arctic Slope to follow migrating caribou to other wintering areas.

There are about 450 grizzly bears in NPR-A, primarily in the Brooks Range, foothills, and major drainages. The grizzly densities in the Brooks Range and foothills of NPR-A are considerably higher than those in similar areas of the eastern Brooks.

Polar bears inhabit parts of the area and are increasing in number along the Arctic coast. It is not known whether this is due to a real increase in numbers or to more bears approaching the coast because of the cessation of aerial hunting.

About 16.5 million migratory birds were found on NPR-A in July 1977. Shore birds comprised one-fourth of this total; ducks numbered about 500,000, and geese about 100,000. The most common ducks are pintails and oldsquaw and some 27 percent of the continental population of whitefronted geese use NPR-A each summer. Whistling swans also use the Reserve and the endangered peregrine falcon is found in NPR-A, primarily along the Colville River. Passerines, commonly referred to as "song birds," make up the majority of bird numbers in the Reserve.

The cold climate and winter ice on lakes and watercourses limit areas of year-round fish habitats to those bodies that do not freeze to the bottom. Other factors such as water quality, flow, and absence of migratory corridors also may be limiting factors.

Composition data for Western Arctic Caribou Herd 1960-1977

Postcalving Population Estimates, rounded to nearest thousand

	1961	1970	1976	1977
Adult females*	61,000	97,000	28,000	35,000
Adult males*	47,000	62,000	16,000	15,000
Yearlings	22,000	36,000	7,000	10,000
Calves	26,000	47,000	13,000	15,000
Ratio yearlings: adult females	36:100	37:100	14:100	16:100

Percentage of Cows with Calves (postcalving)

1960	1961	1962	1970	1975	1976	1977
73	42	53	48	61	54	52

Composition at Time of Rut

	1961	1970	1975**	1976	1977
Ratio males: females*	72:100	64:100	31:100	58:100	43:100†
Ratio calves:females*	—	44:100	48:100	48:100	42:100†

*** Over 24 months old, ratios based on fall composition counts.**

**** 1975 based on very small sample size.**

† Actual ratios are probably somewhat higher. It is believed an unknown number of yearlings were mistakenly classified as adult females.

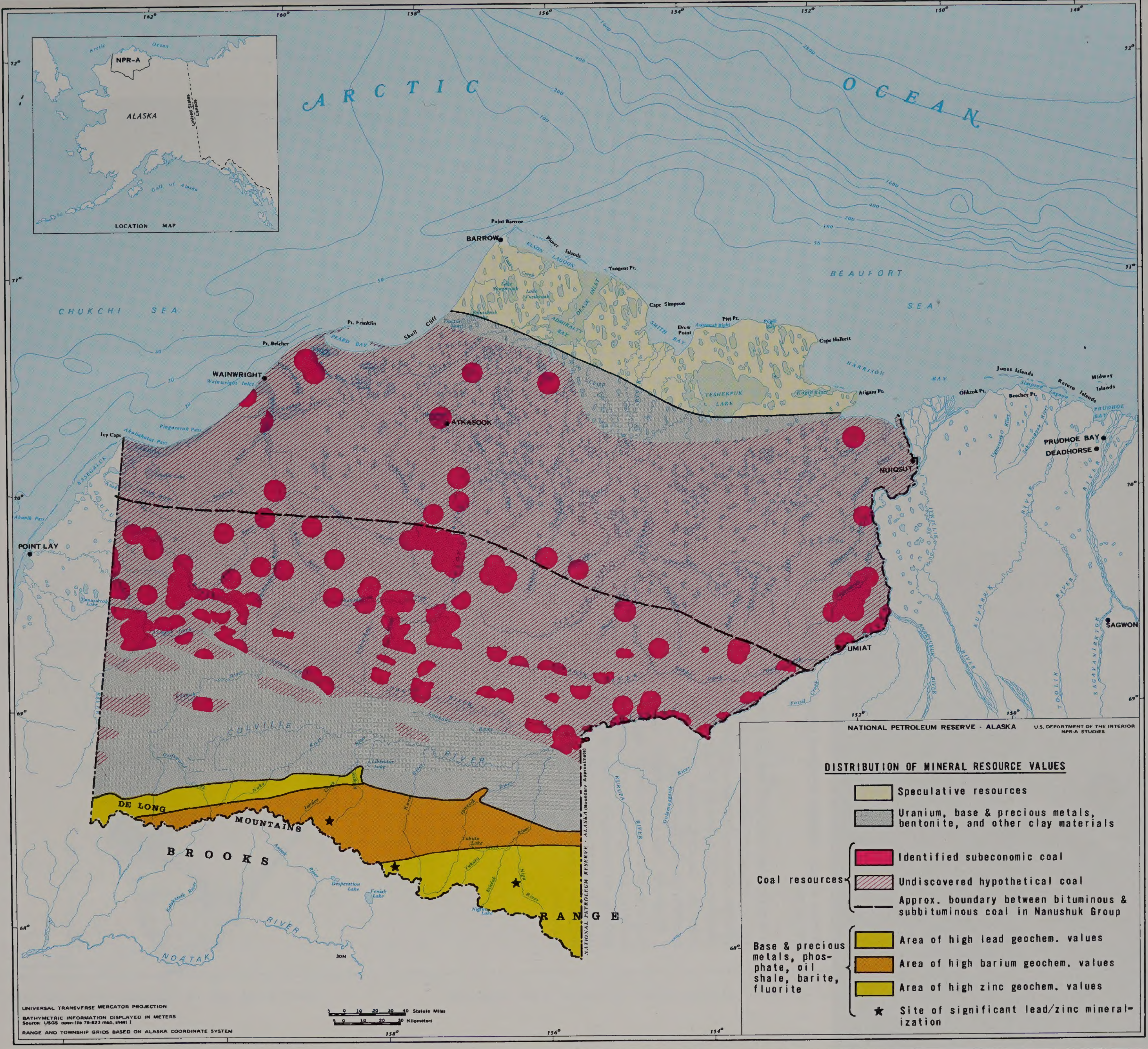
Oxidized minerals in the deposits of the De Long Mountains produce pronounced color contrast and variety. Several promising metalic mineral deposits have been found in NPR-A.*(Dept. of Interior Photo)*

However, Reserve waters provide spawning, rearing and breeding habitat for Arctic grayling, char, lake trout, round, broad and humpback whitefish, least and Arctic cisco, slimy sculpin, longnose sucker, burbot, and ninespine stickleback.

Although less common, there are pink and chum salmon and northern pike in the area. Rainbow smelt and Arctic flounder are caught in the estuaries and a small commercial fishery operates on the Colville Delta.

RECREATION OPPORTUNITES

Recreation opportunities abound on NPR-A with its greatest asset being the expansive, generally



NATIONAL PETROLEUM RESERVE - ALASKA

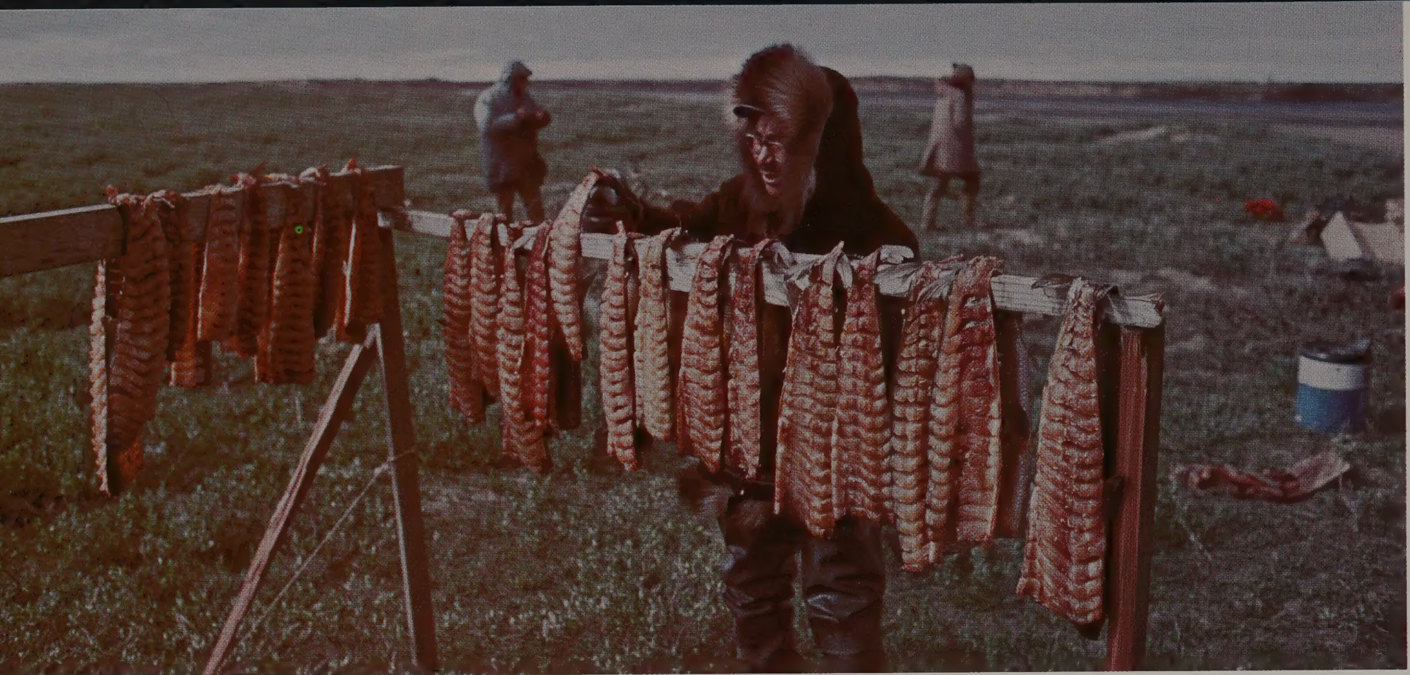
U.S. DEPARTMENT OF THE INTERIOR
NPR-A STUDIES

DISTRIBUTION OF MINERAL RESOURCE VALUES

UNIVERSAL TRANSVERSE MERCATOR PROJECTION

BATHYMETRIC INFORMATION DISPLAYED IN METERS
Source: USGS open-file 76-823 map, sheet 1

RANGE AND TOWNSHIP GRIDS BASED ON ALASKA COORDINATE SYSTEM



Walter Akpik, Inupiat resident of NPR-A checks a rack of broad whitefish drying at a site on the Meade River. *(Photo by S. Pedersen)*

untrammeled nature of the land. The locally abundant poplations of some wildlife species combined with the relatively flat, treeless terrain make viewing opportunities in NPR-A better than in other areas.

Chances for successful sport hunting also are increased. Moose, caribou and grizzly bears are the species most sought by hunters. Big game hunting now draws several hundred people to the Reserve annually.

Little is known about the sport fishing potential.

Currently, light recreational use of Federal lands in NPR-A includes backpacking in the DeLong Mountains along the southern boundary. Unlike the rest of NPR-A, much of that area is free of tussock tundra or wet, bog-like terrain and is more easily traversed by summer travelers on foot.

Floatboating on the major rivers, such as the Colville, Utukok and Niguetivluk has a relatively high potential. During the summer, lagoons and other coastal areas offer unique opportunities to observe marine mammals and waterfowl.

About 8 percent of NPR-A has scenic quality. During summer, DeLong Mountains, Liberator Ridge, and the Colville River Valley provide the highest variety and contrast in landform, water, vegetation and color. The remainder of the Reserve is less varied or scenic.

For approximately eight months a year, the water bodies, vegetation, and their colors are hidden under ice and snow, so visual variety is not very evident.

Nearly all of the Reserve is in a primitive state and is essentially *de facto* wilderness,"says Wickstrom. "In fact," he continues, "few areas show signs of modern man's influence and presence."

Opportunities to observe or hunt

Tundra Hare

Robin Thomas

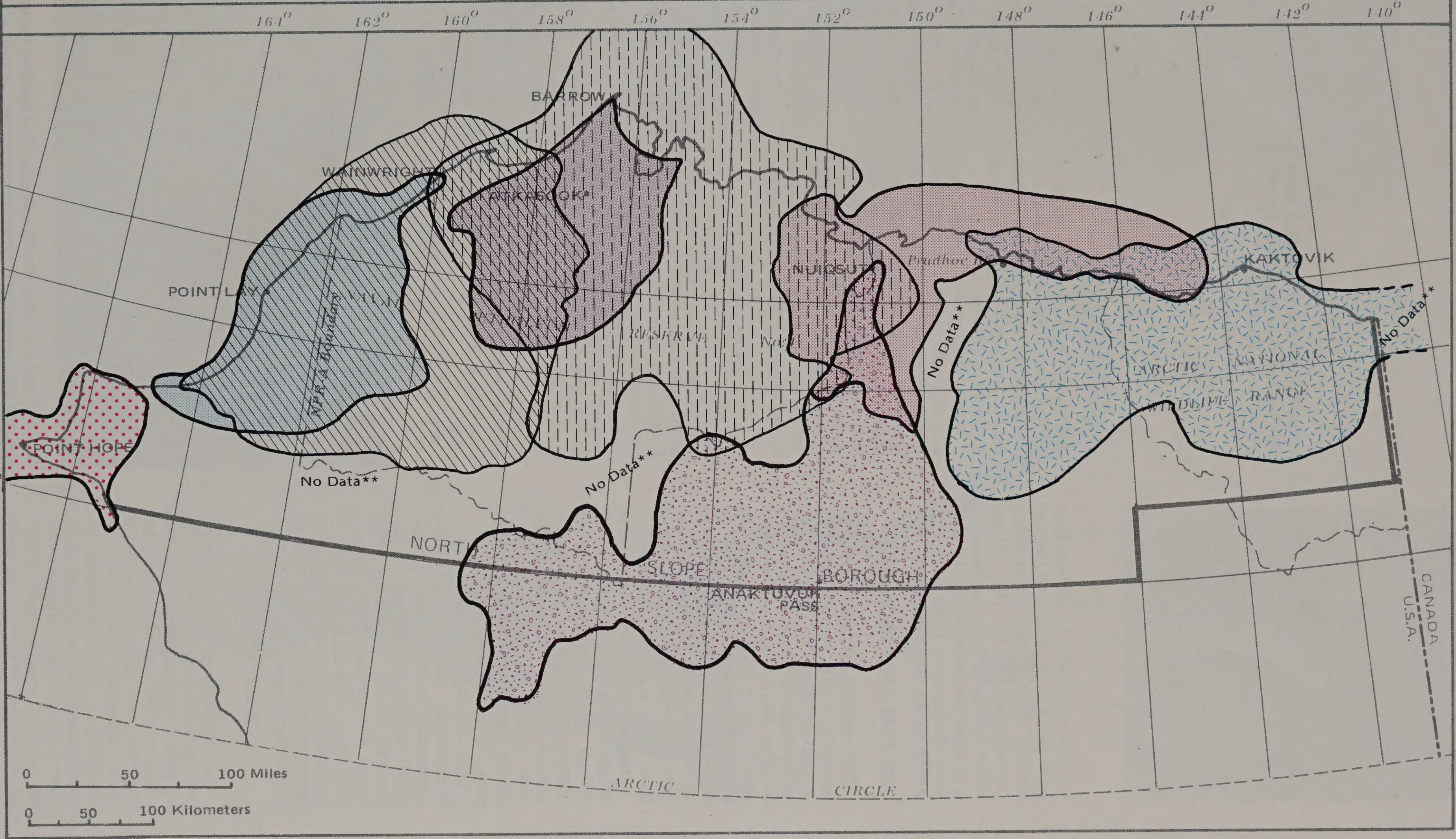
This small older home is typical of those found in NPR-A. A seal skin is drying in the foreground. *(Photo by S. Pedersen)*

NATIVE LIVELIHOOD VALUES: Summary Land Use Map

THIS MAP OF OVERLAPPING VILLAGE LAND USE AREAS IS BASED ON INTERVIEWS WITH ACTIVE HUNTERS IN EACH COMMUNITY WITHIN THE NSB. IT REPRESENTS SYNTHESIS OF DETAILED INFORMATION FROM THESE HUNTERS ON THE PURSUIT OF 16 BIOTIC RESOURCES. THE LAND USE AREAS DEPICTED ARE THE MINIMUM ESTIMATES OF PERCEIVED LAND USE AREAS FOR EACH VILLAGE.

VILLAGE (NUMBER OF RESPONDENTS)

- ░ ANAKTUVUK PASS (6)
- ▒ ATQASUK (ATKASOOK (5)
- ▥ BARROW (20)
- ░ KAKTOVIK (10)
- ▒ NUIQSUT (6)
- ░ POINT HOPE (12)
- ▒ POINT LAY (7)
- ▧ WAINWRIGHT (14)



*Including information from Ray Bane, NPS.

**Although use of these areas is documented historically, they were not being used by those hunters interviewed.

A traditional Inupiat whaling boat with modern darting guns on board. *(Photo by S. Pedersen)*

wildlife enhance a wilderness experience for visitors, and parts of NPR-A offer some outstanding opportunities of this kind. Wilderness conditions are essential to species such as wolves and grizzly bears that require large territories unaffected by man's activities.

GETTING AWAY FROM IT ALL

Recreational users of wilderness usually expect outstanding opportunities for adventure, excitement and challenge, as well as solitude, serenity and self-reliance. Almost all of NPR-A offers these opportunities in a setting 100 or more miles from centers of human activity. However, access to these wilderness resources is difficult and costly because of their remoteness.

Areas with outstanding wilderness values are the DeLong Mountains, 2 million acres; the Utukok River uplands, 4.8 million acres; Teshepuk Lake, 1.4 million acres; the Colville River valley, 2.75 million acres; and the Icy Cape and Kasegaluk Lagoon area, .5 million acres.

The Utukok, Colville and Niguetivluk Rivers also have outstanding features which make them suitable for inclusion in the National Rivers System as Wild Rivers. Other rivers on the Reserve have been evaluated, but are not recommended for such designation because of low flow and lack of desirable attributes.

A WET LAND?

The multitude of lakes, streams and marshes during summer months on NPR-A suggests that a plentiful supply of water should be available. However, this is true only during the short summer because the availability of water is limited by the freezing conditions which prevail for eight to nine months of the year and the relatively small amount of precipitation. Most of the lakes, streams and rivers on the Reserve freeze to the bottom in the winter. No subsurface fresh water has been found due to the presence of permafrost throughout the area.

Water for human consumption and other use is taken from streams and lakes in the open-water season, and from deep pools in rivers and lakes in winter. During breakup, sediment loads may cause stream water to be unusable.

Water quality generally is good for most uses after breakup until midwinter when the quality deteriorates.

AN OLD LAND

The Reserve lies immediately east of the now-submerged Bering Land Bridge, the avenue by which man may have entered North America as many as 25,000 years ago. At present, reliably dated artifacts from the Reserve do not indicate occupations much earlier than 12,000 years ago. Limited archaeological surveys in NPR-A's foothills and along the Arctic coast indicate long, intensive, continuous occupation of some sites.

About 1,100 archaeological sites have been recorded. 400 were discovered prior to 1976, and the balance were found as a result of the 105(c) study. Sites range in size from a single stone tool to villages covering several acres.

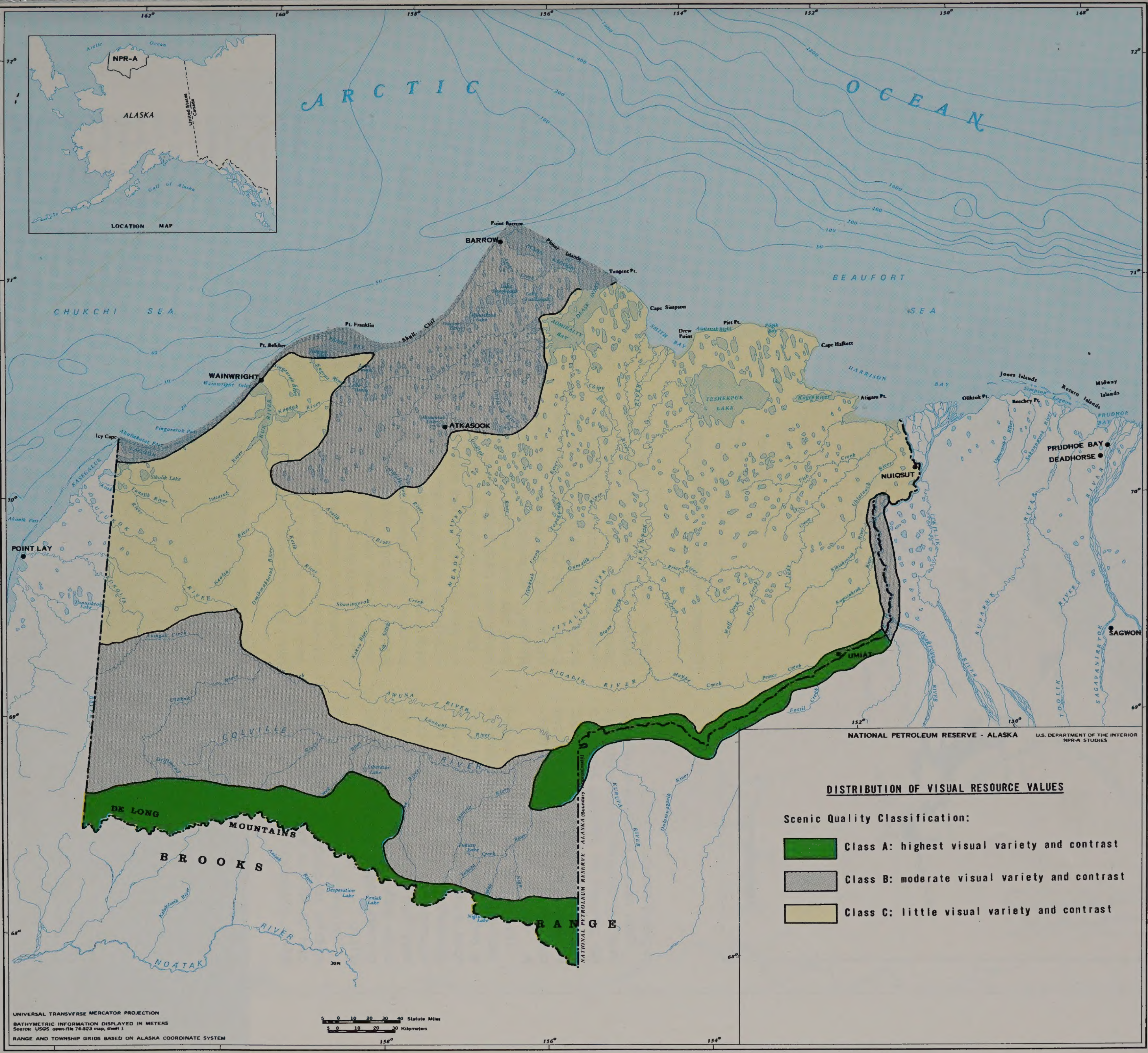
In addition, a remote sensing program based on infrared aerial photography has been instituted in an attempt to identify areas of high archaeological potential. Twenty-six areas are thought to be elegible for inclusion in the National Register.

Overlapping with some of these sites are 1,200 historically or currently used sites which have special meaning to the Inupiat. These have been identified in the North Slope Borough's Traditional Land Use Inventory.

UNDER THE LAND

Work specifically oriented toward delineation and assessment of mineral resources other than oil and gas within the NPR-A has been intermittent and often carried out under time and funding constraints. For most minerals except coal, it is not possible to do more than delineate

Walter Akpik traveling the Meade River in a modern motor boat. Rivers like this one are long standing summer travel routes. *(Photo by S. Pedersen)*



NATIONAL PETROLEUM RESERVE - ALASKA

U.S. DEPARTMENT OF THE INTERIOR
NPR-A STUDIES

DISTRIBUTION OF VISUAL RESOURCE VALUES

Scenic Quality Classification:

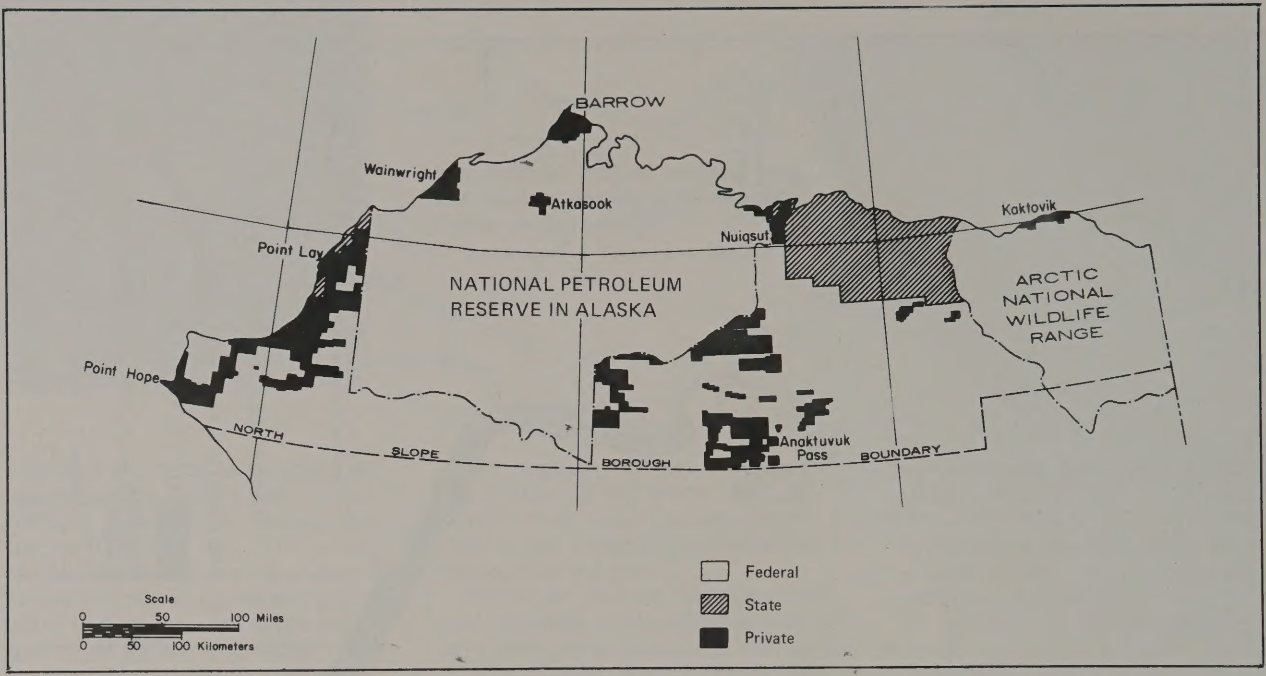
- 🟩 Class A: highest visual variety and contrast
- ▨ Class B: moderate visual variety and contrast
- ▭ Class C: little visual variety and contrast

UNIVERSAL TRANSVERSE MERCATOR PROJECTION

BATHYMETRIC INFORMATION DISPLAYED IN METERS
Source: USGS open-file 76-823 map, sheet 1

RANGE AND TOWNSHIP GRIDS BASED ON ALASKA COORDINATE SYSTEM

5 0 10 20 30 40 Statute Miles
5 0 10 20 30 Kilometers



(Current land status on the North Slope)

regional trends.

Coal occurs in Cretaceous sedimentary rocks which underlie about 60 percent of NPR-A. About 13 billion tons of bituminous, and about 97 billion tons of sub-bituminous coal are "identified" on NPRA-A.

Hypothetical, undiscovered reserves for the region are estimated at between 934 billion and 2.8 trillion tons, a potential energy resource of compelling national interest. Previous studies indicate that some coal may have coking quality because of a low sulfur content, with a caloric content ranging from 8,000 to 14,000 BTUs.

The metallic and associated non-metallic resources of the southern part of NPR-A include zinc, lead, silver, chromium, barium, fluorine, nickel, the platinum group, and copper. Occurrences of each have been verified in or adjacent to the Reserve. Mineralized lead-zinc rock occurs at the surface at Drenchwater Creek, Story Creek, Koiyaktot and the Kivliktort Mountains. Southern NPR-A is a geologic extension of what has been termed "a potential world-class base metal district."

NPR-A's oil shale occurrences are not well defined. Studies show that, in addition to having high yields of hydrocarbon materials, they are enriched in recoverable amounts of arsenic, copper, cobalt, molybdenum, nickel, vanadium, zinc, silver mercury, and gold.

Gravel and coarse sand resources are known from surface distribution only. North and west of the Colville river, gravel deposits appear limited and, where present, may not be readily available for utilization because of environmental concerns.

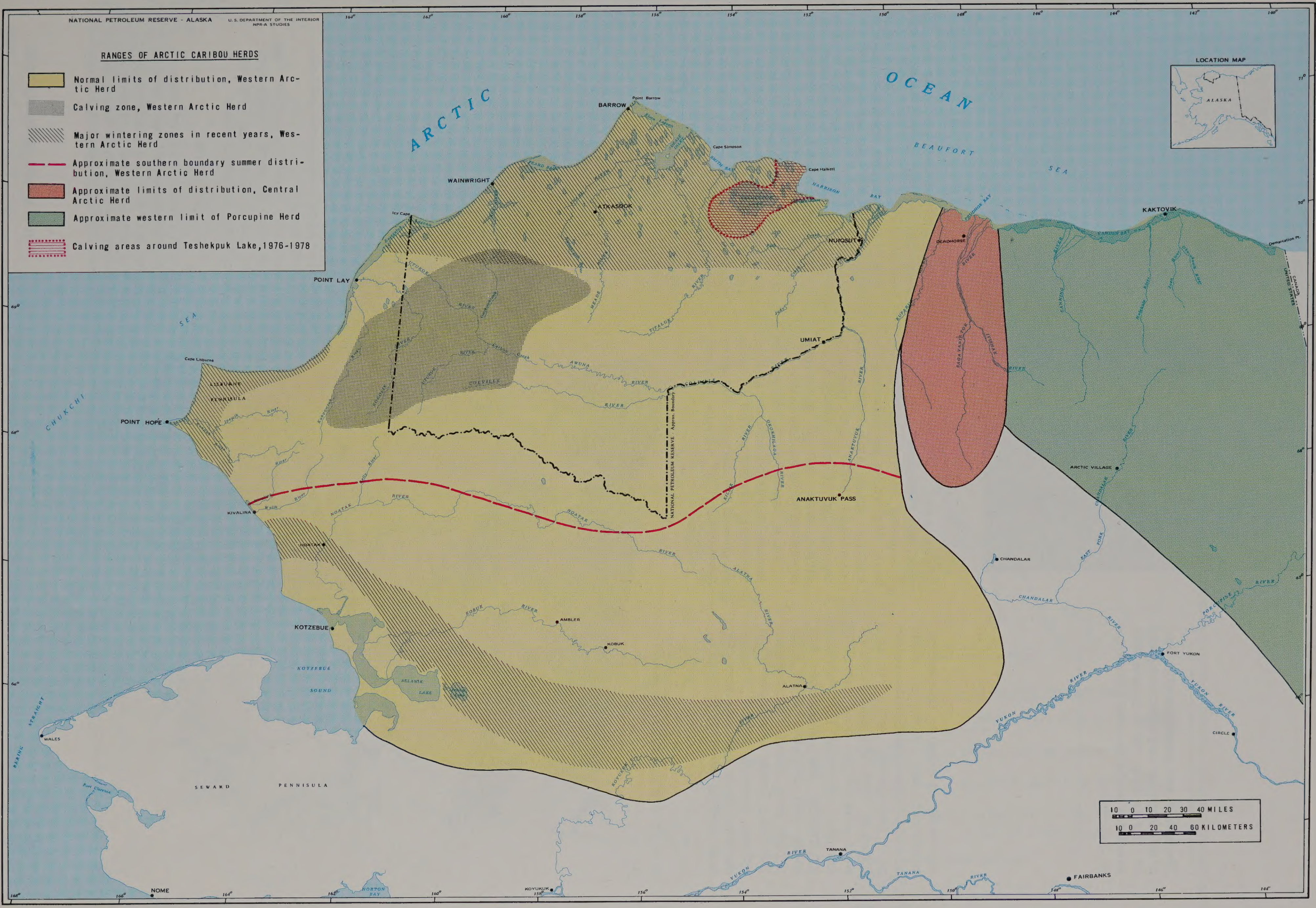
Possible sand sources are the extensive eolian deposits in the northern half of NPR-A. These sands may be suitable for supplementing gravel supplies for use in temporary construction projects.

Potential resources of other low-unit-value construction materials, such as cement rock and aggregate material, remain largely unevaluated.

LAND USE OPTIONS

"Land Use Options," says Jerry Wickstrom, "were one of the basic 105(c) study assumptions from the beginning. I believe the options that finally evolved reflect the various public and professional viewpoints on the best uses of the Reserve. The options are broad and form a framework against which petroleum development policy can be played. The Task Force has not identified any preferred option. There are literally hundreds of options that could be developed and I am sure that, as the overall process continues, there will be new option variations. Hopefully, some of the concepts developed in the 105(c) process will carry through."

"Resources and resource values, except petroleum identified during the study, were analyzed and


NATIONAL PETROLEUM RESERVE - ALASKA
U. S. DEPARTMENT OF THE INTERIOR
NPR-A STUDIES
RANGES OF ARCTIC CARIBOU HERDS
Normal limits of distribution, Western Arctic Herd
Calving zone, Western Arctic Herd
Major wintering zones in recent years, Western Arctic Herd
Approximate southern boundary summer distribution, Western Arctic Herd
Approximate limits of distribution, Central Arctic Herd
Approximate western limit of Porcupine Herd
Calving areas around Teshekpuk Lake,1976-1978
LOCATION MAP
ALASKA
ARCTIC
OCEAN
BEAUFORT
SEA
CHUKCHI
SEA
BARROW
Point Barrow
Cape Simpson
Cape Halkett
HARRISON
BAY
WAINWRIGHT
ATKASOOK
Icy Cape
NUIQSUT
DEADHORSE
KAKTOVIK
Demarcation Pt.
CANADA
UNITED STATES
POINT LAY
UMIAT
Cape Lisburne
LISBURNE
PENINSULA
POINT HOPE
COLVILLE
RIVER
NATIONAL PETROLEUM RESERVE Approx. Boundary
ANAKTUVUK PASS
ARCTIC VILLAGE
KIVALINA
NOATAK
NOATAK
RIVER
ALATNA
KOBUK
RIVER
AMBLER
KOBUK
KOTZEBUE
KOTZEBUE
SOUND
SELAWIK
LAKE
ALATNA
CHANDALAR
CHANDALAR
RIVER
PORCUPINE
RIVER
FORT YUKON
YUKON
RIVER
CIRCLE
WALES
BERING
STRAIT
SEWARD
PENINSULA
NOME
NORTON
BAY
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FAIRBANKS
10 0 10 20 30 40 MILES
10 0 20 40 60 KILOMETERS
72°
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152°
150°
148°
146°
144°
142°
140°

The lumber and canvas construction of this duck hunting camp is typical of the many semi-permanent structures on the Reserve. *(Photo by W. Schneider)*

hundreds of notices, newsletters, brochures, and drafts of study documents were mailed to the public and reviewers,'' says Horace Sanders, “and 78 public meetings were attended by more than 2000 persons.” He adds,“The inventory information was presented, and issues and concerns of the local people were raised. “As it turned out,” says Sanders, “resources and values around which interest centered were hardrock minerals, coal, wildlife (particularly caribou), wilderness, recreation, and subsistence lifestyle.”

Regional Planner David Dorris says, “As would be expected for such a large area with many resources and from persons representing diverse interests, no simple, clear set of goals and objectives could be delineated.

“As a result, each attempt at evaluation yielded different results, depending on the weight or value assigned to any resource. This led to development of various options reflecting values and best uses as seen from different points of view,” he explains.

Many options and combinations of options were suggested and analyzed. From this process, including public review and Task Force consideration, six options emerged. These include the major provisions of each option considered during the total process and reflected the interests of the public, special interest groups, Native residents, State and Federal agencies, and professional organizations. A summary of each option and its base follows.

Peregrine Falcon

OPTION I

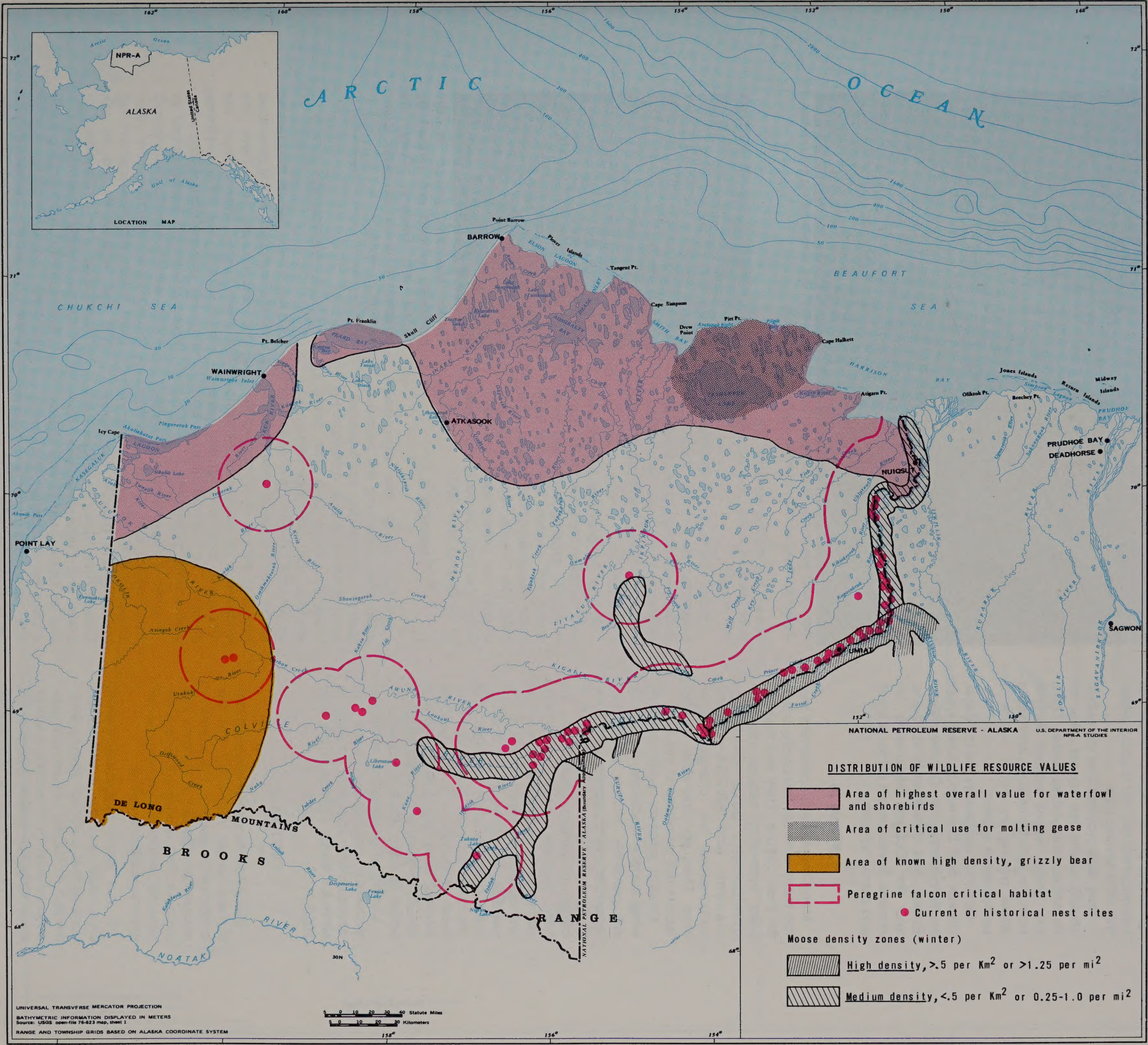
Mineral resources are deemed of highest value in Option I. The mining industry spokesmen said the current system of claim and patent under the 1872 Mining Law is appropriate to develop the country's resources and that development in NPR-A is ultimately in the national interest.

They said that current environmental protection laws, the Federal Land Policy and Management Act, and State and Federal reclamation acts provide for environmental protection not addressed in the 1872 Mining Law. Others suggested that North Slope residents need jobs and dollars and that the early development of mineral resources will help meet this need.

Land Use Option I empahsizes development of mineral resources under the 1872 Mining Law and current laws and regulations.

OPTION II

Option II responds to interests of those who believe that many uses of a given area may occur at the same time if everyone will cooperate in resource conservation. They claim that mining, for example, can occur


NATIONAL PETROLEUM RESERVE - ALASKA
U.S. DEPARTMENT OF THE INTERIOR
NPR-A STUDIES
DISTRIBUTION OF WILDLIFE RESOURCE VALUES
Area of highest overall value for waterfowl and shorebirds
Area of critical use for molting geese
Area of known high density, grizzly bear
Peregrine falcon critical habitat
Current or historical nest sites
Moose density zones (winter)
High density, >.5 per Km² or >1.25 per mi²
Medium density, <.5 per Km² or 0.25-1.0 per mi²
LOCATION MAP
NPR-A
ALASKA
Arctic Ocean
Gulf of Alaska
United States
Canada
ARCTIC OCEAN
CHUKCHI SEA
BEAUFORT SEA
Point Barrow
BARROW
WAINWRIGHT
Icy Cape
POINT LAY
ATKASOOK
NUIQSUT
UMIAT
PRUDHOE BAY
DEADHORSE
SAGWON
Pt. Franklin
Pt. Belcher
Skull Cliff
Plover Islands
Tangent Pt.
Cape Simpson
Drew Point
Pitt Pt.
Cape Halkett
Atigaru Pt.
Jones Islands
Return Islands
Midway Islands
Oliktok Pt.
Beechey Pt.
SMITH BAY
HARRISON BAY
COLVILLE
RIVER
DE LONG MOUNTAINS
BROOKS RANGE
NOATAK RIVER
NATIONAL PETROLEUM RESERVE - ALASKA (Boundary Approximate)
UNIVERSAL TRANSVERSE MERCATOR PROJECTION
BATHYMETRIC INFORMATION DISPLAYED IN METERS
Source: USGS open-file 76-823 map, sheet 1
RANGE AND TOWNSHIP GRIDS BASED ON ALASKA COORDINATE SYSTEM
5 0 10 20 30 40 Statute Miles
5 0 10 20 30 Kilometers
162°
160°
158°
156°
154°
152°
150°
148°
72°
71°
70°
69°
68°
30N

without destroying wildlife if advance planning and stipulations take this into consideration. However, some do not believe conservation of natural resources has occurred nor will it occur under the 1872 Mining Law.

They also propose that the public should receive fair market value for its land and mineral resources. Thus, this group would exclude NPR-A from the 1872 Mining Law and would allow mining to occur under a permit-lease system.

Option II designates the Icy Cape, Utukok and Teshekpuk Lake areas as Wilderness, the Colville, Nigu-Etivluk, and Utukik as Wild Rivers, and the DeLong Mountains for mineral development under a lease and permit system.

OPTION III

Many Inupiat are concerned that too many external forces are acting on their culture. They feel that the case economy, natural resource development, government regulations, and ANCSA-created corporations are changing their lives. They ask that other change factors not be added at this time.

Mineral interests point out that while surface resources and values are generally known, subsurface resources and values are not. Mineral evaluation within NPR-A is based on surface values only. To fully evaluate mineral deposits, additional subsurface work such as drilling and geophysical surveys is needed to determine quality, quantity and economic viability of the occurrences. Knowledge about these resources is in the national interest, could affect decisions, and should provide a stronger base on which to make future decisions.

Option III provides for additional mineral inventory with no development and little change in NPR-A's status until after the year 2000.

OPTION IV

Some concern was expressed that surface values of NPR-A are too important to permit the intensive exploration allowed in Options I-III to occur. This is particularly true for potential wilderness areas and for important wildlife habitat.

It has been suggested that if exploration occurs, it should be done so that it will not destroy wildlife and its habitat or eliminate subsistence use. Furthermore, exploration activities should not prevent the area from being designated Wilderness in 20 years if that is in the best interest of the local people and the nation.

Backpacking in the De Long Mountains is one of the outstanding recreational opportunities of the reserve. *(Photo by HCRS.)*

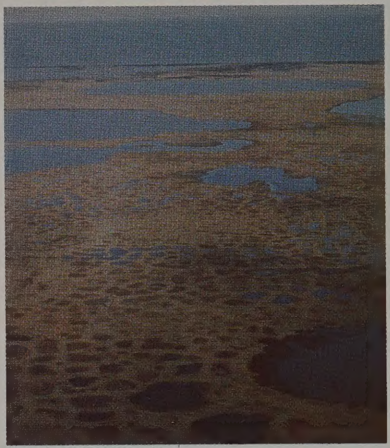
Those interested in wildlife have suggested that wildlife population enhancement should be undertaken and emphasis should be placed on these values beyond simple protection.

Option IV provides for mineral inventories to continue for 20 years. However, nothing may be done which will prevent the area from being designated Wilderness after 2000. The Colville, Nigu-Etivluk and Utukik are designated as Wild Rivers. No final use decisions would be made until after 2000.

OPTION V

Another group has expressed interest in preserving the primitive quality, recreation opportunities, and wildlife of NPR-A. Although the entire 23 million acre area, being roadless, may qualify for wilderness use, some portions are obviously better suited to Wilderness designation than others. It is these major wilderness, recreation, and wildlife resources that this group feels should be immediately and permanently protected.

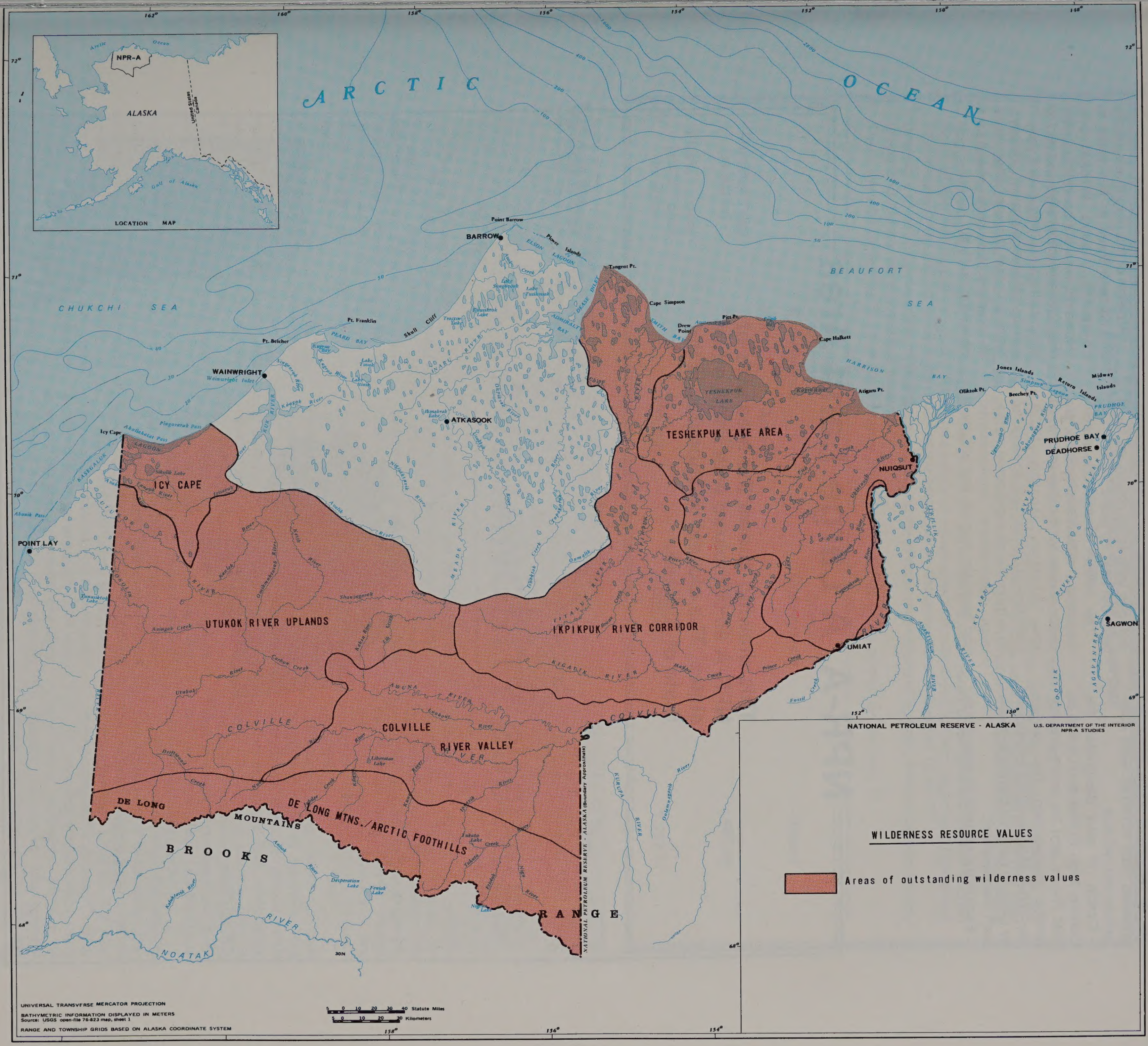
Option V designates the Colville, Nigu-Etivluk and Utukik as Wild Rivers; about half of the Reserve, including the DeLong Mountains, Colville River Valley, the Utukok, Icy Cape, and Teshekpuk Lake areas, and all barrier islands and lagoons should be designated Wilderness. The option calls for the remainder to be re-evaluated after 2000.


These shallow ponds in the patterned ground are formed by buried ice wedges. They are common to the coastal plain. *(Dept. of Interior Photo.)*

OPTION VI

Option VI is based on the premise that the fish and wildlife resources and subsistence use have the highest value throughout the Reserve and are of exceptional regional and national significance. Preservation and enhancement of these values are the paramount management objectives, the viewpoint being that management for fish and wildlife should be unencumbered by Wilderness or Wilderness Study designations.

Management, according to these interests, could include manipulation to enhance fish and wildlife populations and habitat. Minerals,


NATIONAL PETROLEUM RESERVE - ALASKA
U.S. DEPARTMENT OF THE INTERIOR NPR-A STUDIES
WILDERNESS RESOURCE VALUES
Areas of outstanding wilderness values
LOCATION MAP
NPR-A
ALASKA
ARCTIC OCEAN
BEAUFORT SEA
CHUKCHI SEA
BROOKS RANGE
ICY CAPE
UTUKOK RIVER UPLANDS
TESHEKPUK LAKE AREA
IKPIKPUK RIVER CORRIDOR
COLVILLE RIVER VALLEY
DE LONG MTNS./ARCTIC FOOTHILLS
DE LONG MOUNTAINS
BARROW
Point Barrow
WAINWRIGHT
ATKASOOK
POINT LAY
NUIQSUT
PRUDHOE BAY
DEADHORSE
UMIAT
SAGWON
Icy Cape
Pt. Belcher
Pt. Franklin
Skull Cliff
Tangent Pt.
Cape Simpson
Drew Point
Pitt Pt.
Cape Halkett
Atigaru Pt.
Oliktok Pt.
Jones Islands
Beechey Pt.
Midway Islands
Return Islands
HARRISON BAY
TESHEKPUK LAKE
COLVILLE
NOATAK RIVER
NATIONAL PETROLEUM RESERVE - ALASKA (Boundary Approximate)
UNIVERSAL TRANSVERSE MERCATOR PROJECTION
BATHYMETRIC INFORMATION DISPLAYED IN METERS
Source: USGS open-file 76-823 map, sheet 1
RANGE AND TOWNSHIP GRIDS BASED ON ALASKA COORDINATE SYSTEM
Statute Miles
Kilometers

developed under leasing, would be one of the values to be managed, provided such activities were compatible with wildlife.

Option VI also designates the Colville, Nigu-Etivluk and Utukok as Wild Rivers, and the entire area for wildlife management but permits non-renewable resource extraction by lease of permit if compatible with such management.

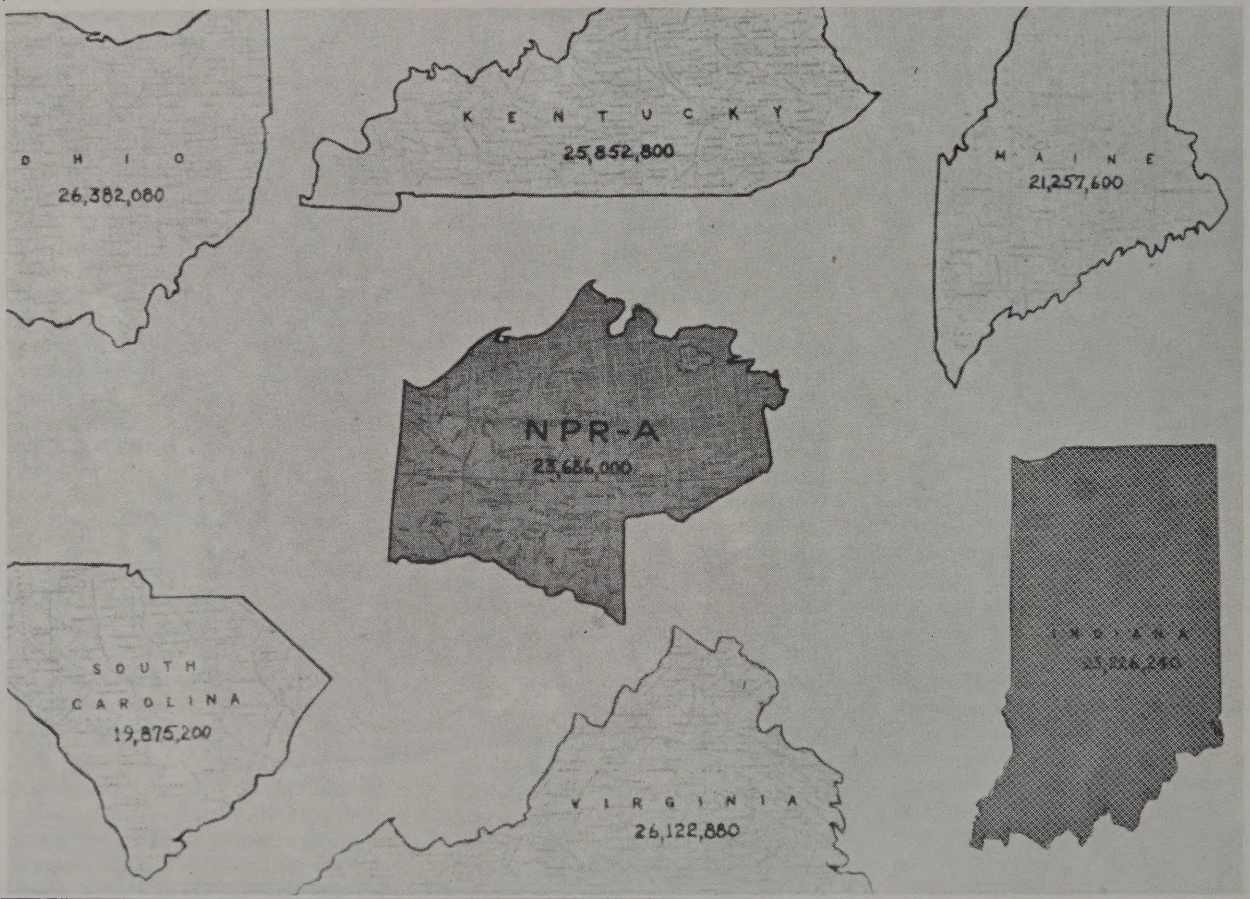
Each of the six options attempts to protect wildlife, barrier islands, and critical habitat and provides for subsistence uses to be continued for at least the next 20 years.

The NPR-A study documents, including the land use options, are under review by the Department of the Interior. During 1979, Department officials will analyze the data from the oil exploration, petroleum development, environmental and land use studies, and will then formulate a final report on NPR-A for presentation to Congress.

"Projects of this magnitude ideally should take three to five years to complete," says Wickstrom. "However, we were operating under very tight time constraints and had to wrap it all up in a little over a year. It was an interesting project," he says, "and all the people who were involved are to be commended for a job well done." ■

NPR-A, A Large Land Area

This drawing shows the area size of NPR-A as compared with a few other states. The closest relationship is the State of Indiana.



ANCSA LAND CONVEYANCE PROGRESS REPORT
January 31, 1979
SUMMARY

Total surface conveyed to date: 6,637,975; of this total, 107,250 acres have been patented.

With the conveyance of land to the village corporations in King Cove, St. Paul, Bethel and Tatitlek this month, the number of acres of surface estate conveyed to village corporations to date rose to 3,110,535 acres. Of this total 103,327 acres have been patented. Altogether, 47 village corporations and two of the named cities have received a portion of their entitlements.

Regional corporations have received conveyance of 3,527,440 acres of surface estate under the provisions of Section 12 (c) of ANCSA. In addition to the subsurface estate of village selections conveyed to them, regional corporations have received 483,233 acres of in lieu subsurface estate under the provisions of Section 12 (a) (1).

Decisions to Issue Conveyance of 74,286 acres affecting the village corporations of Saxman, Nelson Lagoon, Woody Island and Akhiok were published in January.

There were 23 Decisions to Issue Conveyance affecting 774,198 acres on appeal on January 31.

	Decision to Issue Conveyance		Interim Conveyance	Patent
	No.	Acres		
Monthly Total (in acres)	5	74,286	651,555	467.68
Fiscal Year (1979 Total) in acres	10	239,300	1,087,427	1,297.11

Wanted By BLM

SMALL AND MINORITY BUSINESS

By Johanna Bales

The Bureau of Land Management is seeking new sources of equipment, supplies and services that can be provided by minority businesses, small businesses, and those located in areas of high unemployment.

This includes purchasing materials, equipment and services to support fire fighting, surveying, recreational development and maintenance, and related programs at a cost of $10,000 or less.

Among the actions being taken are:

--Small business Set Asides. All open market procurements within the authority of the BLM in Alaska will be set aside for small business where it is determined there is adequate competition--two or more suppliers--within the small business community.

--Small Business 8 (a) Set Asides. Certain procurements will be set aside for businesses certified under the Small Business Administration 8 (a) Program. Eligibility requires that a firm satisfy criteria established by the Small Business Administration.

At a minimum, an applicant must be a small business concern that is at least 51 per cent owned by socially or economically disadvantaged persons and one that is controlled on a day-to-day basis by such persons. Socially or economically disadvantaged persons are defined by SBA as those who have been deprived of the opportunity to develop and maintain a position in the competitive economy.

--Labor Surplus Area Set Asides. Areas of high unemployment are classified by the Department of Labor as labor surplus areas. Businesses within these areas will be given preference, provided prices are competitive and reasonable. However, these areas are constantly changing. If you need to know if your particular area is considered a labor surplus area, contact your nearest BLM office.

--Minority Businesses. There is no statute that allows preference in procurement to be given to minority businesses. However, greater emphasis is being placed on increasing the participation of minority groups (Eskimos, Aleuts, black Americans, Puerto Ricans, Spanish-speaking Americans and American Indians) in procurement programs.

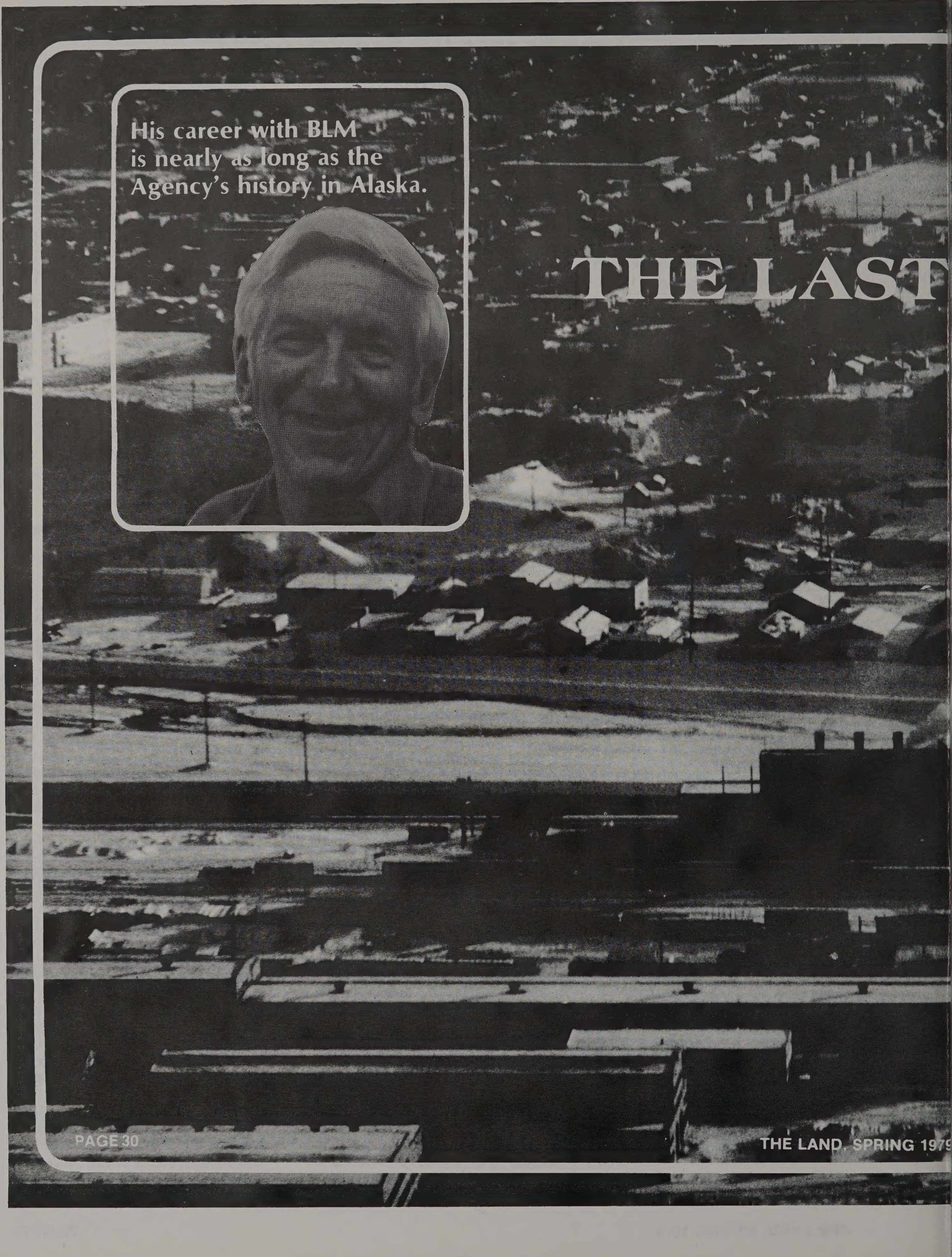
Actions being taken include contacting minority business firms and assist them in placing their names on source lists, establishing and maintaining current lists of minority businesses, and assuring that minority businesses are given the opportunity to compete for all open market procurement.

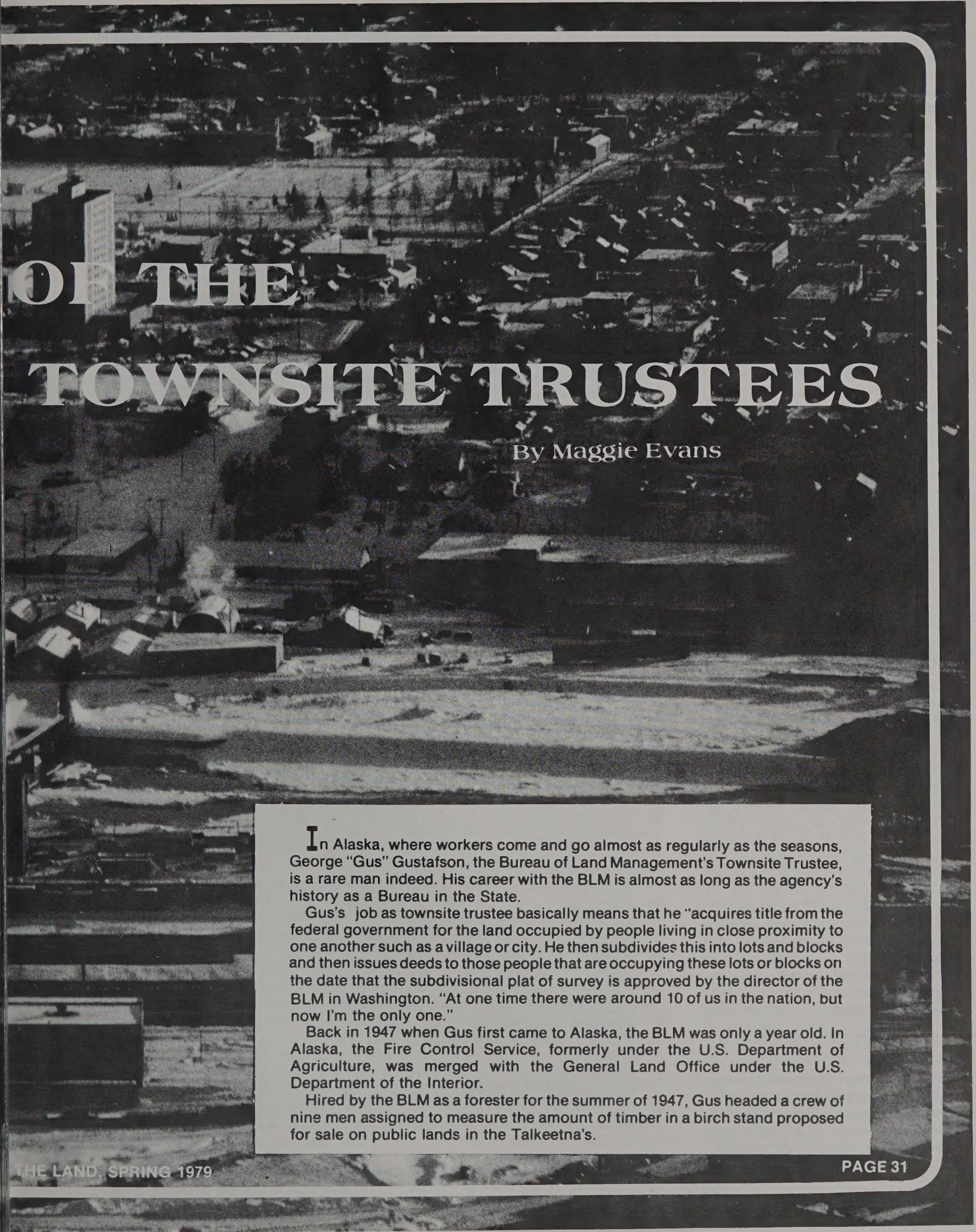
Further information regarding the Small Business 8 (a) program may be obtained from the Small business Administration, 1016 W. 6th Ave., Anchorage, 99510, phone 271-4022.

For further information regarding the other programs, contact the Bureau of Land Management, Branch of Administrative Management (951), 701 C St., Box 13, Anchorage, 99513 or call (907) 271-5049.

THE LAST

His career with BLM is nearly as long as the Agency's history in Alaska.





OF THE TOWNSITE TRUSTEES

By Maggie Evans

In Alaska, where workers come and go almost as regularly as the seasons, George "Gus" Gustafson, the Bureau of Land Management's Townsite Trustee, is a rare man indeed. His career with the BLM is almost as long as the agency's history as a Bureau in the State.

Gus's job as townsite trustee basically means that he "acquires title from the federal government for the land occupied by people living in close proximity to one another such as a village or city. He then subdivides this into lots and blocks and then issues deeds to those people that are occupying these lots or blocks on the date that the subdivisional plat of survey is approved by the director of the BLM in Washington. "At one time there were around 10 of us in the nation, but now I'm the only one."

Back in 1947 when Gus first came to Alaska, the BLM was only a year old. In Alaska, the Fire Control Service, formerly under the U.S. Department of Agriculture, was merged with the General Land Office under the U.S. Department of the Interior.

Hired by the BLM as a forester for the summer of 1947, Gus headed a crew of nine men assigned to measure the amount of timber in a birch stand proposed for sale on public lands in the Talkeetna's.

Gus, who was born and raised in Superior, Wisconsin, already had earned two bachelor's degrees by 1947..one in education, the other in forestry. A tour in the Navy during World War II had whetted his taste for travel. "I really looked forward to seeing Alaska and working in its forests," Gus recalls. He planned, when the summer was over, to leave his regular position as research forester at the University of Illinois in Urbana and return to school for a Master of Science in forestry.

Gus and his crew were stationed in an old Civilian Conservation Corps building off Oilwell Road in Anchorage because the BLM had not yet moved into consolidated quarters. Most of the time, however, they camped out in the forests, traveling to the Talkeetna area on the Alaska Railroad.

"We carried our camp along with us," Gus remembers, "with tents for shelter and Yukon stoves for heat. We had no camp cooks, and we got mail and fresh supplies only when we walked out to meet the train that came through once a week."

The railroad furnished transportation for fire fighting in those days, too. Fires generally were spotted by commercial airline crews who reported them to the Alaska Fire Control Service. Fire fighters and equipment then boarded the train, got off as close to the fire as possible, and did what they could to stop it.

When work on the birch stand was halted, Gus was asked to measure another stand on MacKenzie Point, across Knik Arm from Anchorage. "I was familiar with hardwoods because of my work in Illinois," he explains, "and I was able to estimate the salvagable timber simply by walking through the stand." When sampling confirmed Gus's estimate that the yield would be poor, a disappointed Wisconsin furniture manufacturer withdrew his bid to buy the MacKenzie Point birch.

By this time, Gus was deeply impressed with Alaska's beauty, the vigor of the Alaskan lifestyle, and the opportunities that seemed sure to appear. When he was offered a position as District Ranger with BLM, he accepted and became a permanent resident of Anchorage, with his wife and two daughters, one four years old, the other six months. A son was born here in 1951.

Preceeding page shows Anchorage in 1952 as it looked a few short years after Gus began his career with BLM. Today Anchorage is a well known cosmopolitan city of over 200,000.

Gus enjoying a short visit with two native children somewhere in Alaska's bush country. *(BLM Photo)*

The 1948 fire year was bad. As District Ranger, Gus had to oversee fire fighting. "I'd come home from one,"he says, "only to get called out to a new one." His long absences from home were hard on his family, and so in 1949, Gus began a new job with the BLM Lands Office in Anchorage.

All Alaskan land claims were processed and recorded in that office. Claims were for homesteads, home sites, headquarters sites, trade and manufacturing sites, and Native allotments...all made available under various Federal land laws. BLM field men examined claims for compliance to regulations, wrote field reports, and when all was in order, the claims were patented and became part of the public record in the BLM.

"The Small Tract Act of 1948 was significant to the growth of Anchorage," Gus points out. The town then had a population of only a few thousand, but some predicted that Anchorage's population would grow to half a million by the year 2000. That forecast now seems likely to come true.

The Act gave BLM the authority to classify lands, and thus, somewhat direct growth. Lands could be classified for recreation, business, homesites, and institutions.

Gus says with some pride, "The BLM showed great foresight in setting aside two sections of land off Lake Otis Road for public institutions in Anchorage." The land then was roadless wilderness; today two universities, Alaska-Anchorage and Alaska Pacific, plus Providence Hospital and the Alaska Psychiatric Institute occupy the land.

Housing was scarce in 1948, and the Act made it possible for residents, including BLM employees, to get land on which to build their homes. Lots were classified, appraised, and then offered for lease with an option to buy in three years. Land as far away from Anchorage as Indian and Girdwood came under the program because the railroad made them accessible for settlement.

Prices are startling to anyone familiar with current prices. Gus remembers that, "We appraised 1 1/4 acre lots near the railroad in Girdwood at $75 to $100. But, when you got a quarter of a mile away from the rail, you could buy a two and one-half acre lot for $50."

Gus and his family purchased a lot near Rabbit Creek, but used it only for recreation. They built a small cabin and outhouse on it, and the Gustafson children hosted Scouting events on the land as they grew up. Gus is good-humored about the fate of his cabin. He went out to check it one day...and it was gone. Someone had simply moved it off his land. "And when I looked for the 'privy'," chuckles Gus, "I found they'd taken that too. All we had left was the hole."He adds, however, that the land still is his and its value is considerably greater than the $185 he paid for it.

Over the years, BLM has had housing problems in Anchorage, too. First sheltered in the woodframe Hawver building on the corner of 4th and H streets, the Bureau moved catercorner across the street to offices over a store when the Hawver building burned to the ground during a spectacular New Year's Day fire in the early 1960's.

Another move took BLM staff to the Reed Building that still stands on 4th and F streets; and then across the street to the old Federal Building.

Gus recalls that the BLM offices once had housed the Federal Marshall's office. One worker had an office in a jail cell, complete with barred door and windows.

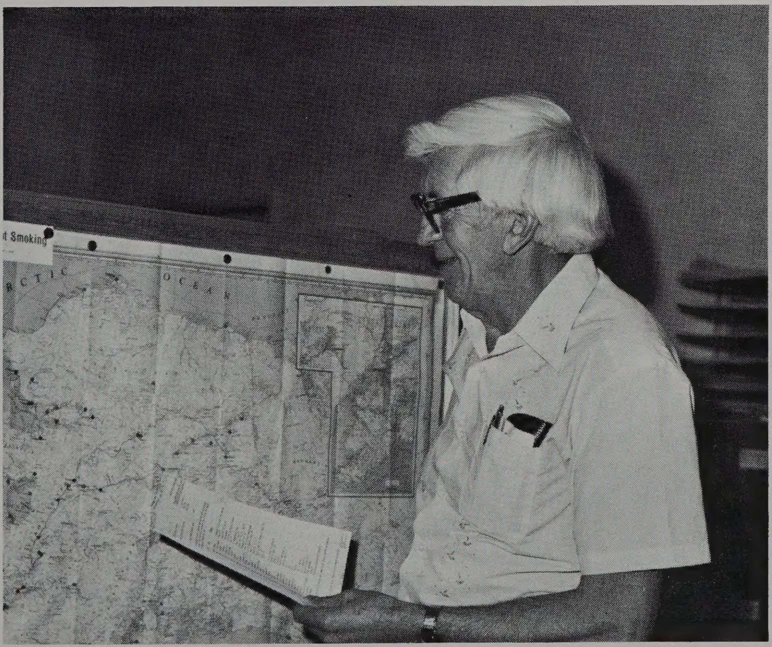
The Cordova Building, next headquarters for the BLM-Alaska State Office, was built especially for the agency, although space was shared from time to time with other tenants. The 1964 earthquake damaged the building so badly that everyone was evacuated from it. It was renovated, however, and remained BLM's home until February when the Alaska State Office moved to the new Federal Building at 701 C Street.

Administration of BLM has changed as well. An area director was replaced by a state director who in turn was replaced by an area director, and finally again by a state director, now Curtis V. McVee. In a consolidation process in 1961, a Juneau office was eliminated, the lands and minerals officer moved to Anchorage, and an equivalent officer was stationed in Fairbanks.

Gus, who had been the Anchorage lands and mineral officer, became the Townsite Trustee. In this position, he maintains all documents relating to townsites. Under the 1891 Townsite Act, a group of people living on a site could petition for titles to the land. Gus travels to the petition area, examines the lands and structures to ensure they match descriptions in the petition, works with the people to solve any problems, and helps them plan the town.

The Alaska Native Claims Settlement Act in 1971 spurred activity for the Townsite Trustee. Of 210 occupied qualified cities and villages listed in the Act, 105 had previously asked for appointment of a trustee and for townsite surveys. The remaining settlements are administrated under the village corporations. Now, most of the 105 have been surveyed and only 31 are still awaiting title or patent for various reasons.

In the course of his work, Gus has visited almost all the villages in Alaska, traveling by chartered aircraft to places not served by commercial airlines. "At one time, we hired dog teams to taxi us from the airstrip to the village, but now most surface travel in the bush is by snow machine," Gus comments. He says he never travels without a pack and sleeping bag, and most often, his village 'hotel' is the school house.



Looking over a map in planning one of many trips Gus makes to villages throughout the state. *(BLM Photo)*

He says he's enjoyed it all, especially the people he has come to know in rural Alaska.

What does he do for recreation after his on-the-job travels? He travels some more. After their children had grown, Gus and his wife, who taught in Anchorage schools, traveled together to Hawaii and Europe. Mrs. Gustafson died in 1972, and as a widower, Gus continued to visit many parts of the world including South America, the Fiji Islands, Tahiti, and New Zealand.

In 1978, Gus remarried. A few months after the wedding, he and his new wife, a pretty white haired grandmother of 10, joined a group of Anchorage educators on a tour of the People's Republic of China. They speak warmly of the people they met on their trip from Peking southeast to Hangehou, Shanghai, Changsha, and finally to Canton. "The Chinese are extremely curious about foreigners," reported Sally and Gus during a noontime showing of slides they gave for his fellow workers at BLM. "They gathered close around us wherever we went, just to look at us. They were always friendly and polite," Sally and Gus added.

Gus is enjoying his new office in the Federal Building, a glassed-in space beside the atrium, an interior courtyard that soon will be green with trees and other growing plants which affords Gus a quiet place to work on his maps, correspondence, and records. He is easy to find...and as a public employee who has worked closely with Alaska's people throughout his career, Gus thinks that's mighty important.

Although Gus has managed to stay busy during his BLM career, a recent Solicitor's opinion might escalate things somewhat. The opinion basically says that land within the townsite that was unoccupied and unsubdivided on October 21,1976, may be deeded to the municipality after survey if the village requests it.

"Some people may have improved the land thinking that it was still open," says Gus. "We now have to determine who was occupying the land prior to October 21,1976, and who wasn't." ■

GRIZZLY BEARS

By Mike Butler

What do zoologists, the Arctic, grizzly bears, seismic activity, and the Bureau of Land Management have in common?

Usually not much. But the Fairbanks District Office's Wildlife Biologist, Pat Reynolds, will tell you that these things go together very well.

"The combination," says Pat, "started a few years ago when the Alaska Department of Fish and Game tagged a number of grizzly bears in the southwestern portion of NPR-A as part of a land use study. I was in on the project from the beginning and still represent the BLM on the study. The idea is to do an ecological study of the bears. Over

Pat Reynolds, a BLM Wildlife Biologist, reviews slides of a recent trip to the Arctic. Above, Pat puts a radio tag on a darted grizzly bear. Right, she checks radio equipment used in her studies. Foreground shows a typical radio collar.

the past two years, about 80 have been tagged and 29 have been provided with radio collars."

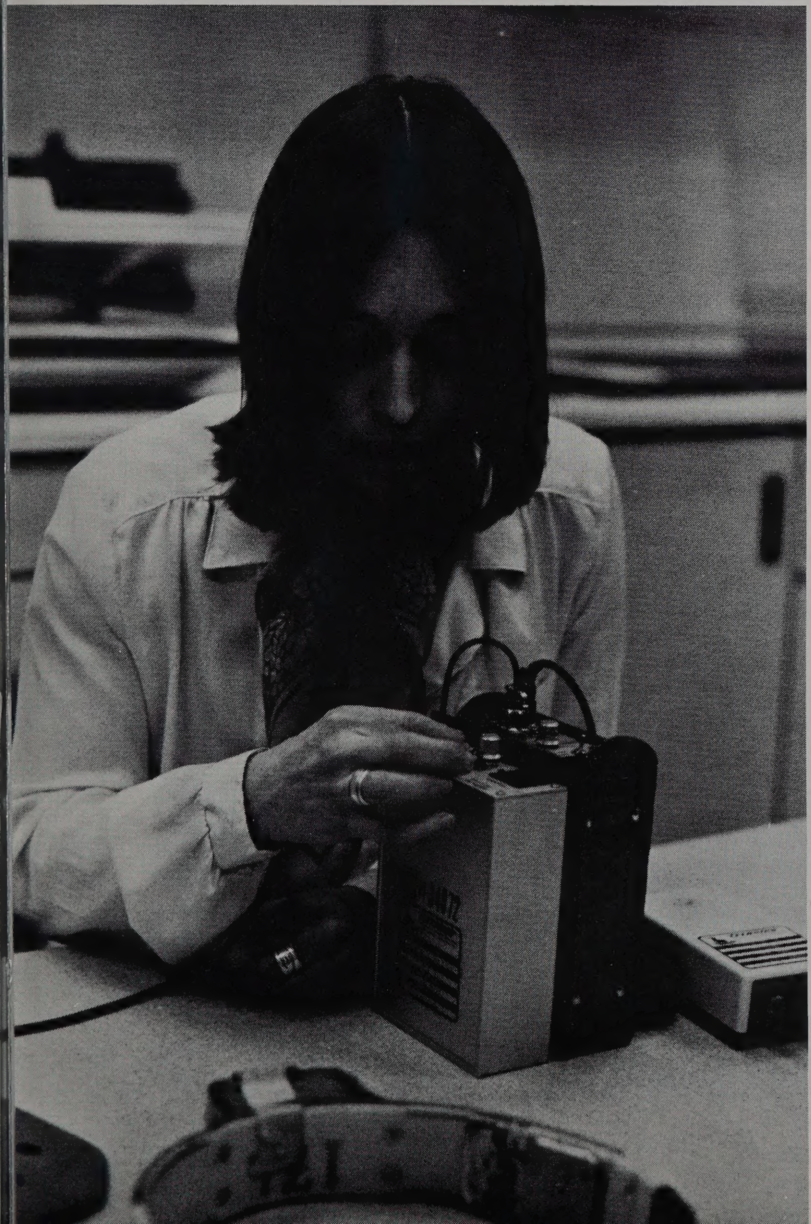
Normal tagging procedure is to dart grizzlies from a helicopter and, after they are down, biologists weigh and measure them, take a tooth for aging purposes, examine reproductive organs of the females, draw blood samples, and then mark them for identification. The radio collars are provided so the Alaska Department of Fish and Game can follow and monitor the animals.

The collars contain radio devices that emit a signal that can be picked up by aerial monitors up to 10 to 30 miles away.

"Each animal is collared with a different frequency so that the biologist knows which bear is doing what," says Pat. In this way, it's possible to determine where the bears move, get a good idea of their home range, and what habitats they are using."

Pat's involvement with the bears on NPR-A began when a stipulation written into the monitoring program provided that no seismic vehicles be within a half-mile of any known grizzly den. The seismic work is being conducted by the U.S. Geological Survey which has subcontracted it to a private organization, Geophysical Service Incorporated, as part of the oil and gas exploration on NPR-A.

AND SEISMIC ACTIVITY



A problem with the stipulation was that it is difficult to know where the bears are denned, especially after snow starts to fall. However, because Alaska Fish and Game had located dens of the radio-collared bears, Pat has given the opportunity to observe potential disturbances from seismic activities on them. The purpose of the study is to determine activity patterns of a bear inside a den during hibernation and to observe any changes in those patterns that might occur due to seismic activity.

Once a den is located, Pat is able to do her job because of the collars' capabilities. The period of the radio signal emitted from the collar is a function of temperature. So, as the temperature of the collar changes, the number of radio pulses per second varies. If the amplitude, or loudness, of the signal remains steady, this indicates the animal is motionless.

The Fairbanks biologist relates, "Prior to this system, we really had very little information about what wild bears were doing while denning. And that's very important when it comes to figuring out whether seismic activity is causing the animals any problems."

When Pat goes to the Arctic to do her work, she usually travels with a seismic crew. When they are near a denning area, she straps on her skis and ventures as close as possible to observe the radio signals on digital readout monitor while the crews travel by and shoot holes.

"The results I recently saw are inconclusive," Pat says. "In one I got good readings on, there was motion inside the den when they were shooting the holes. It's not possible to tell exactly what kind of motion, but some was taking place."

She admits that it's not possible to determine conclusively that the bear was picking up sounds and vibrations from seismic shock, or whether the movement was normal. It is known that the bears did not leave their dens last winter.

In order to make their findings more conclusive, Pat has acquired a few small recorders that can be plugged into radio receivers and put outside the dens to record animal activities for 28 hours or more. "That is an upcoming program that we'll tell you about next year," she promises.

Pat's background for this work is

(Cont. on next Page)

This aerial photo shows a seismic train similar to those Pat rides with while doing her work in the Arctic.

extensive. Her love of animals took her to a bachelor's in zoology at the University of Utah, and a masters' in the same subject from the University of Montana. After her college studies, she spent three years as a science technician and supervisor of the animal facilities for the Naval Arctic Research Laboratory at Point Barrow.

When asked whether working in the cold, tough, environment of the Arctic bothered her, Pat says she has spent a lot of time in that environment now and she knows when or when not to take chances, whether it relates to the bear situation or the weather.

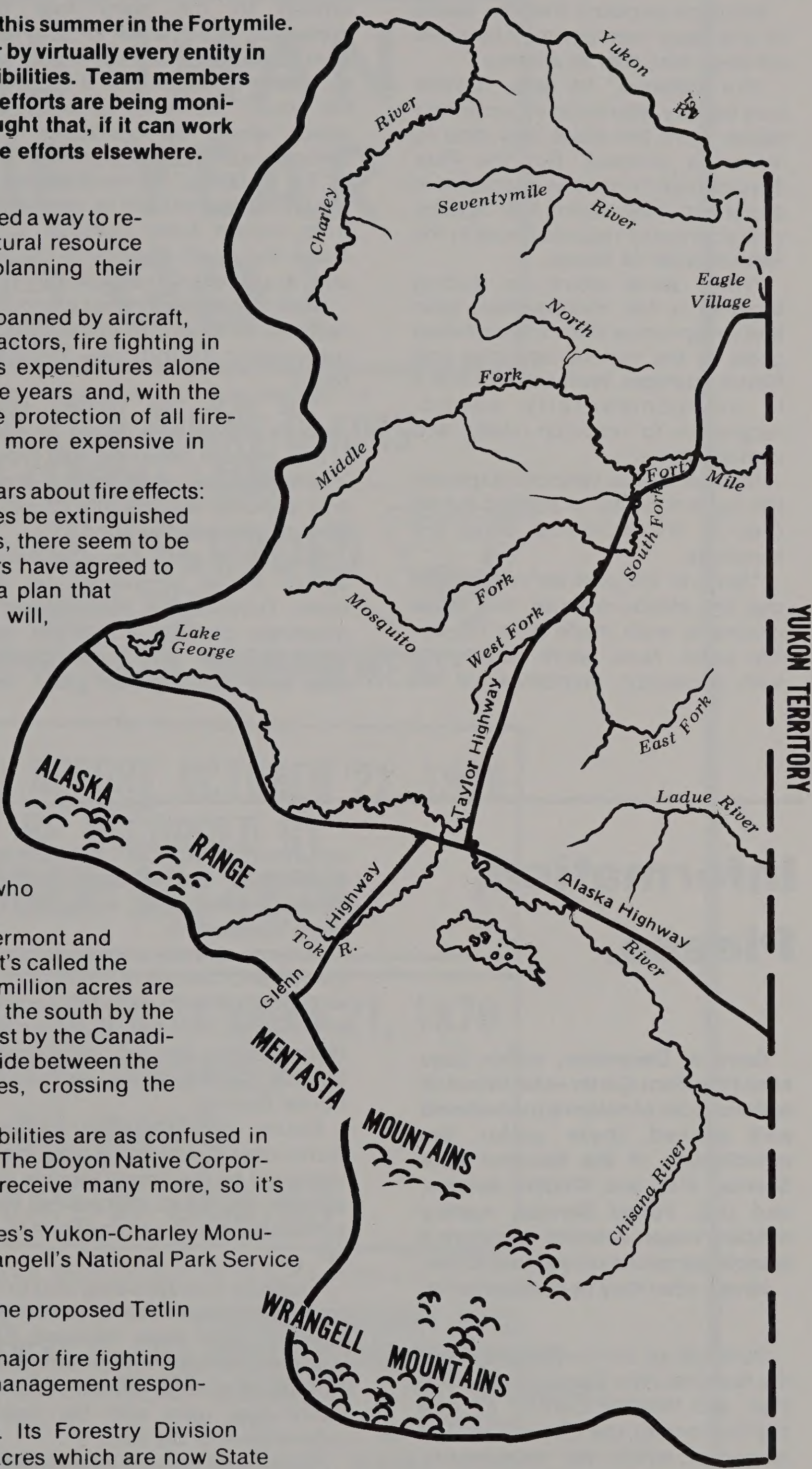
"When I'm doing my work up there, I carry a walkie-talkie so I can talk to the people on the seismic trains and, I'm never more than a mile from those trains. In other words, if I were to have bear problems or an unexpected storm hits, help is close at hand."

State Director Curt McVee, right, accepts the Salvation Army Community Service Award from Capt. David Clitheroe, left. Looking on is Bobbi Knudsen, coordinator of the project. The award, presented on January 22, was presented for the State Office's support of the Christmas Family program. BLM sponsored the Susitna Residence Home in Palmer, raising money for gifts through a raffle of donated items. *(BLM Photo)*

GETTING ALONG ON THE FORTYMILE

By Carl Gidlund

A new approach to fire fighting will be tried this summer in the Fortymile. It will follow a plan developed during the winter by virtually every entity in Alaska with natural resource-related responsibilities. Team members call it unprecented in scope, and the Alaskans' efforts are being monitored by "outside" organizations with the thought that, if it can work here, it may serve as the model for cooperative efforts elsewhere. Here's what it's all about.



40 MILE FIRE MANAGEMENT

Alaska land managers think they've discovered a way to reduce some strain on the tightly stretched natural resource dollar--cooperation and common sense in planning their response to wildlife.

Because of the vast distances that must be spanned by aircraft, the size of many fires, high wages and other factors, fire fighting in the nation's largest state is expensive. BLM's expenditures alone have averaged $20.5 million over the past three years and, with the cost of everything rising, continued intensive protection of all fire-prone areas will be difficult to achieve and more expensive in the years ahead.

Then too, scientists have been arguing for years about fire effects: Are they beneficial or detrimental? Should fires be extinguished or left to run? As with most complex questions, there seem to be no clear cut answers, but a few land managers have agreed to disagree on the issue; they are working up a plan that takes into account differing philosophies yet, will, they believe, result in substantial savings to the taxpayers and private land owners who pay fire fighting bills.

Clair Whitlock, BLM's Associate State Director, leads the effort. He's chairman of the Alaska Manager's Cooperative Task Force's subcommittee for fire management.

That string of words is about as long as his committee is strong, for it comprises all private, State and Federal land managers who have an interest in the subject of fire.

The team has chosen an area the size of Vermont and New Hampshire combined to try out the plan. It's called the Fortymile Fire Management Area and its 12 million acres are bounded on the north by the Yukon River, on the south by the crest of the Wrangell Mountains, and on the east by the Canadian border. Its western boundary follows the divide between the Good Pasture and Fortymile river drainages, crossing the Alaska Highway near Lake George.

Land ownership and management responsibilities are as confused in that corner of Alaska as anywhere in the State. The Doyon Native Corporation has received title to some acres, will receive many more, so it's represented on the team.

A major portion of the National Park Services's Yukon-Charley Monument is within the area, as is the proposed Wrangell's National Park Service Preserve. Thus, that agency is participating.

So is the U.S. Fish and Wildlife Service, for the proposed Tetlin Wildlife refuge is there.

The BLM is a player, of course, for it's the major fire fighting agency in Alaska and just may retain some management responsibilities in the Fortymile.

Then there's the State Division of Lands. Its Forestry Division naturally has an interest in protecting those acres which are now State property or soon will be.

The Alaska State Department of Fish and Game has a stake in the action too, since that agency is responsible for managing resident wildlife species.

Two entities of the U.S. Forest Service also are represented, even though that agency probably will not have direct management authority in the area. Its Institute of Northern Forestry personnel have accumulated a lot of knowledge about fire behavior in the north, and its State and Private Division contributes expertise, money, and manpower to the State Division of Forestry. **(Cont. on Next Page)**

Then there's the Bureau of Indian Affairs which has responsibilities related to the protection of Native allotments within the area.

Whitlock explains that the needs of one team member may be quite different than that of another.

"For instance," he says, "Doyon may be very interested in protecting timber from fire since they plan to market a product. But the Park Service might not be as interested in protecting trees since that agency philosophically regards fire as in the natural order of things.

"What we're doing is putting together a fire management plan that's responsive to the management goals of the various agencies and Native interests. We'll see to it that it is environmentally sound, responsive to resource needs, and cost-effective."

In other words, Whitlock explains, the current policy of putting out all fires in the Fortymile soon will terminate.

"Sure, in the past we've modified our fire attack at times. but those decisions were made on a fire-by-fire basis. Now, we're coming up with protection standards for the whole area and chunks within it. Those will tell the fireman when and how to attack."

He says that the plan is being refined to the point that the protecting agency will know which fires to attack, since some may not be; which to attack first if there's a fire "bust;" the level at which an attack would be continued; and limitations on suppression methods.

"For instance," Whitlock explains, "heavy equipment will be prohibited from certain areas because 'cats' cause too much damage to the soil and, in places, ruin scenic values."

Such depth in planning obviously requires an extensive knowledge of resources in the fortymile. The team has it.

"The BLM has darned good records on past fires there," he says. "They include behavior, fuel types, locations, sizes, suppression costs, and resource damage that occurred from suppression actions."

But fire is only one of nature's agents being considered by the team. They've also accumulated a mountain of data on timber and watershed, air and water quality, rare and endangered plant and wildlife species, archaeological and historic sites, soils and permafrost.

"We've pretty well analyzed the effects of fire on those resources," he claims. "When you combine that with our fire history, you've got the ingredients of a damn fine plan."

Where do they go from here?

Whitlock says the team intends to put the plan into effect during this year's fire season. And he bridles when anyone refers to the huge Fortymile as a "fire laboratory."

"That sounds like we're not trying out theories," he says. "We're not. We know what's out there, the resources' needs, what has to be protected, and the wishes of the managers. This isn't a hypothesis. This is a real plan."

Team members are calling it the first of a kind. They say that fire planning on this scale and with so many players never has been done before in the U.S.

If it works, they say, it will be the model for future efforts in other places, not only in Alaska but "Outside" too.

But there is no "if" in Whitlock's vocabulary:

"It damn well will work." ■

Information, Please.

Early in December, within days after President Carter established 56 million acres of national monuments and placed them under the jurisdictions of the National Park Service, Fish and Wildlife Service, and U.S. Forest Service, agency officials began meeting to ensure a smooth transition of responsibilities.

Here's what they've decided so far:

BLM offices are sending to either the National Park Service or the U.S. Fish and Wildlife Service all new applications to use Federal land or resources within the monuments. Included are applications for uses such as grazing, rights-of-way, and temporary use permits.

Duplicate files of cases in process are being retained by the BLM until Congress makes its final determination of monument boundaries, but all applicants are being notified that authority has been transferred.

Mining claims, annual assessements, and Notices of Intent to Hold will continue to be recorded and pre-adjudicated by the BLM for the National Park Service and Fish and Wildlife Service as well as the U.S. Forest Service.

Since the National Forest monument lands have been managed by the Forest Service, that agency has been processing such applications and will continue to do so.

Trespass files are being sent to the appropriate agencies for action, and persons who have received BLM trespass notices will be advised in writing that enforcement responsibility now rests with the agency administering the land.

Actions on applications leading to title transfer under public land laws will continue to be handled by BLM under established procedures.

Mineral patent applications still will be handled by the BLM, and the National Park Service and Forest Service will conduct validity examinations within their areas of jurisdiction. BLM also will continue to perform mineral examinations for patent applications on Fish and wildlife Service Lands.

Since Alaska Native Claims Settlement Act delegations have been given only to BLM, this agency will retain interim management responsibilities for Native-selected lands. However, before less-than-fee authorizations are given, applicants must obtain written comments from appropriate Native corporations and agencies; this also includes applications in core townships since there may be impacts on unconveyed land.

At press time, a means to transfer buildings, leases, or other real property interests held by the BLM within the new monuments has not been decided.

The best source of information about activities permitted within the monuments is the appropriate managing agency. However, those who have authorizations issued by the BLM are welcome to contact this agency.

ATTENTION MINERS

LESS THAN ONE YEAR TO GO!

BY LAW: SECTION 314 OF P.L. 94-579 (FEDERAL LAND POLICY AND MANAGEMENT ACT)

ALL UNPATENTED MINING CLAIMS
*** ON FEDERAL LAND**
MUST BE RECORDED
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BUREAU OF LAND MANAGEMENT

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MUST BE RECORDED BY
OCTOBER 22, 1979

CLAIMS LOCATED AFTER OCTOBER 21, 1976
MUST BE RECORDED
90 DAYS
FROM DATE OF LOCATION

* Includes areas withdrawn November 28, 1978, under Sec. 204(e) FLPMA and the new National Monuments.

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